

# AMERICAN Railroad Journal.

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SECOND QUARTO SERIES.—VOL. XXXVIII., No. 45.]

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THE editor of the RAILROAD JOURNAL is pleased to receive information of railroad enterprises already entered upon or projected, items regarding the business done on the roads, such as relate to persons employed in the railroad and kindred interests; in short, about all matters which the readers of such a paper as this are gratified to find within its columns.

## CONSTRUCTION.

THE Essex Center cut-off track-layers were within four miles of Windsor on the 13th inst.

THE Columbus, Hocking Valley and Toledo Railroad has just added two miles to its Snow Fork branch, completing it to Murray City.

THE Denver and Rio Grande Railway is said to have 2,000 men employed on the extension from Salt Lake to Ogden, and it is hoped to have the line completed by January 1.

THE Georgia Pacific Railway has been extended to Tallapoosa, near the Alabama line, ninety-three and a half miles from Atlanta, and trains will run through hereafter to that point.

A RAILROAD is to be built from Roanoke, Va., to the iron mines and other mineral deposits on the lands recently purchased by Mr. Samuel Colt, of Hartford, Conn. The road will be ten miles in length.

THE Pittsburgh and Western Railroad Company has made connection with the Pittsburgh and Lake Erie Railroad at New Castle. On December 1 a passenger train is to be run from Allegheny to Butler.

WORK on the International Railway is now progressing in Maine. It is proposed to connect with Bangor via the Katahdin Iron Works Railway, the Bangor and Piscataquis and the Euroean and North American Railway.

THE California Southern Railroad is now completed to Colton, a small station on the Southern Pacific Railroad, 127½ miles from National City. The board have recently decided to extend the road to San Bernardino, about five miles north from Colton.

THE Ohio Central Railroad, which will connect with the Baltimore and Ohio Railroad near Fostoria, Ohio, is finished from Corning to Point Pleasant, Ohio, and opened to travel from Corning to Albany, a distance of thirty-five miles. It is expected that the road will connect with the Marietta and Cincinnati Railroad.

THREE new and important railroad lines have recently been established in the West, viz: a line from St. Louis to St. Paul and Minne-

olis composed of the St. Louis, Keokuk and Northwestern, the Burlington, Cedar Rapids and Northern and the St. Louis and Minneapolis; the new line of the Chicago, Milwaukee and St. Paul, from Chicago to Omaha; and third, the new line of the Chicago, St. Paul, Minneapolis and Omaha to Superior City. This latter new line, 166 miles long, from St. Paul to Superior City, makes a direct short line from Sioux City to Superior.

## PERSONAL.

GEN. GEORGE STONEMAN, Governor elect of California, has filed with Gov. Perkins his resignation as Railroad Commissioner.

SAMUEL M. SHOEMAKER, resident manager of the Adams Express Company in Baltimore, has been elected vice-president of the company.

JAMES A. EADS of Paris, Ill., has been appointed receiver of the Danville, Olney and Ohio River Railroad Company, by the United States Circuit Court.

JOHN S. WILSON, general freight agent of the Pennsylvania, and the Philadelphia, Wilmington and Baltimore railroads, has been appointed general freight agent of the Northern Central Railway, vice A. W. Nutt, resigned.

GEN. J. H. DEVEREUX and Judge Stevenson Burke were elected directors of the New York, Chicago and St. Louis Railroad Company on the 14th inst., in place of Walston H. Brown and Wm. Fleming resigned. The road now uses the same terminal facilities at Buffalo and Chicago as the Lake Shore and Michigan Southern Railway.

SEPTIMUS C. FLEETWOOD, of Mount Vernon, has been appointed acting auditor of the New York, New Haven and Hartford Railroad Company, in the place of Edward E. Robinson, deceased. Ma. Fleetwood has been in the employ of the company for twelve years, and for the last ten years has held the position of assistant auditor.

At a meeting of the directors of the Lake Erie and Western Railway Company on the 13th inst., the following officers were re-elected: President, C. R. Cummings, Chicago; first vice-president, J. H. Cheney, Bloomington; second vice-president, E. H. R. Lyman, New York; secretary and treasurer, B. G. Mitchell, New York; general manager, E. H. Waldron, Lafayette, Ind.; and counsel, C. S. Brice, New York.

## INCORPORATION.

THE Gettysburg and Emmitsburg Railroad has been chartered, with a capital stock of \$60,000, to build a road from the terminus of the Round Top Railroad, at Round Top, Adams county, to a point on the Pennsylvania and Maryland State line, a distance of six miles.

THE Dominion Transfer Company, composed of M. H. Cochrane of Compton, Henry Judah, John Bassels, and Wm. B. Smith of Montreal, and Robt. Heighen of Perth, has been incorporated for the purpose of the transport on land by means of vehicles drawn by horses, of goods, ware and merchandise in and about the cities of Montreal, Ottawa, Quebec, Toronto, Winnipeg and other places in the Dominion. The capital stock is \$50,000.

THE Erie and Wyoming Valley Railroad Company was chartered at Harrisburg, Penn., on the 9th inst. The road will be 68 miles in length, extending from Port Griffith, in Luzerne county, to Lackawaxen, in Pike county, through Luzerne, Lackawaxen, Wayne and Pike counties. The capital stock is \$3,000,000, and the officers are: President, Edward W. Clymer, Reading; directors, Samuel Hines, W. A. Way, Charles E. Bradbury, E. W. Ives, Scranton; E. P. Darling, J. N. Darling, Wilkes-barre.

A COMPANY has been organized by T. C. Eastman, of New York; W. H. Monroe, of Albany; W. H. Vanderbilt, and H. & W. Arnold, of Chicago, Ills., with a reported capital of \$1,000,000 to oppose the Chicago dressed beef enterprise of Hammond & Co., and Swift & Co., of Chicago. They will open depots in every city where the other firms have agencies now, and will sell the beef brought from Chicago in the American Refrigerator Company's cars at a price which will just cover expenses. This is regarded as a move to crowd out the dressed beef trade in the interests of the live-stock business of the East.

THE State Department at Harrisburg, Penn., chartered on the 9th inst. the Pittsburgh and White Hall Railroad Company, the line of which will extend from White Hall tavern, Baldwin township, Allegheny county, to Third and Bingham streets, Pittsburgh, seven miles. The capital is \$300,000, and the officers are: President, Oliver D. Phillips, Allegheny City; directors, R. B. Brown, C. L. Magee, Clifton W. Phillips, Oliver F. Wharton, Walter Chess, George T. Oliver, James A. Chambers and A.

M. Byers, of Pittsburgh. This line occupies the route of Keeling's coal road on Twenty-first street, and will probably follow his tunnel through Coal Hill, the ultimate object being the opening of the coal fields in that neighborhood.

A CERTIFICATE of incorporation of the Toledo and Michigan Railway Company, with a capital of \$5,000,000, was filed with the Secretary of State of Ohio on the 9th inst. This is an extension northerly of the Ohio Central Railroad into the lumber districts of Michigan, so that the coal cars will have something to haul on their return trips from the Northwest. This Company has recently completed its extension from Corning to the Ohio River and Charleston, and will soon be open for business from the Northwest to the seaboard, being a trunk line between the East and Northwest. The incorporators are James E. Neal, John E. Martin, W. H. Andrews, G. G. Hadley and Alex. W. Scott. The new line will be open for business early in the spring.

AMONG the organizations incorporated at Albany on the 10th inst. was "The Order of Lafayette, of the United States of America," with its principal office in New York City. The objects of the order are to foster and stimulate love of country and respect for the republican form of government; to encourage devotion to the public service; to reward military prowess and civic virtue; to recognize the services of veterans of the wars of the nation, and of civilians who were, or shall be prominent, unselfish and generous in sustaining the nation; to relieve distress among soldiers and sailors who have or may serve under the American flag, and their widows and orphans, and to collect and preserve military and other trophies and relics and general historical information.

#### ORGANIZATION.

The directors of the Philadelphia, Germantown and Norristown Railroad Co., recently elected for three years, are : Lewis Elkin, John A. Brown, Jr., Richard Dale and J. W. Johnson, Jr.

The directors of the Market Street Passenger Railway Co. of Philadelphia, recently elected, are : P. A. B. Widener, William H. Kemble, William L. Elkins, Henry C. Howell, William R. Leeds, John L. Hill, Joseph E. Gillingham, M. S. Quay and Hamilton Disston.

At a meeting of the stockholders of the International Railway Company, of Maine, held at Bangor on the 9th inst., the following directors were chosen: J. H. Pope, Ottawa, Ontario; W. B. Ives and D. E. McFie, Sherbrook, Quebec; Noah Woods, E. R. Burpee and F. A. Wilson, Bangor.

The directors of the Lombard and South Streets Passenger Railway Co., Philadelphia, for the ensuing year, are : W. Rotch Wister, Edward Samuel, Howard A. Stevenson, R. N. Carson, W. H. Shelmerdine. The board elected John B. Parsons president, and Francis Hazlehurst, secretary.

The directors of the Third Avenue (N. Y.) Railroad Co., elected on the 8th inst., are : Henry Hart, William Remsen, Lewis Lyon,

Thurlow Weed, Robert George Remsen, Henry Morrison, John M. Samler, Samuel Willets, Maltby G. Lane, Daniel S. McElroy, William M. Pritchard, Samuel Hall and Silvanus S. Riker.

THE directors of the Lynn and Boston Railroad Company, elected on the 8th inst., are : Amos F. Breed, Asa A. Breed, Philip A. Chase, of Lynn, Isaac Stebbins, William R. Pearman, of Chelsea, William Sprague, John Reed, Thos. T. Proctor, E. Francis Oliver of Boston, George W. W. Dane of Andover. Amos F. Breed was elected president, and E. Francis Oliver treasurer and clerk.

AT a general meeting of the stockholders of the Dominion Bridge Company, held in Montreal on the 9th inst., the following directors were elected: Angus Thom, of Montreal; Luke Lyman, of Northampton, Mass.; Philip Johnson, of Toronto, Ont.; Ira Abbott, of Montreal, and Job Abbott, of Montreal. Mr. Job Abbott was elected president and chief engineer; Mr. Ira Abbott, vice-president; and Mr. A. Thom, secretary.

THE directors of the Metropolitan Elevated Railroad Company, elected on the 8th inst., are : Joseph S. Stout, Jacob Berry, Elijah Smith, Thomas T. Buckley, Rufus H. Gilbert, Sidney Shepard, Joseph N. Burnham, Morillo H. Gillett, Charles Duggin, Sylvester H. Kneeland, and Benjamin W. Gillett. Sylvester H. Kneeland was elected president, and Morillo H. Gillett, vice-president. John E. Body continues as secretary and treasurer.

THE directors of the Manhattan Elevated Railroad Company, elected on the 8th inst., are: Jay Gould, Cyrus W. Field, Russell Sage, R. M. Galloway, Edward M. Field, George J. Gould, Sidney Dillon, Samuel Sloan, José F. Navarro, W. E. Connor, George S. Scott, John H. Hall and H. F. Dimock. The officers are : President, Jay Gould; vice-president, R. M. Galloway; treasurer and secretary, D. W. McWilliams; general manager, F. K. Hain.

The Burlington and Northeastern Railroad Company was organized at Burlington, Vt., on the 9th inst., with C. M. Spaulding as president; George L. Linsley, clerk and treasurer; F. M. Van Sicklen, C. M. Spaulding, Orange Buck, Henry Smilie, A. C. Spaulding, directors. The company is authorized by its charter to build a railroad from the terminus at Burlington and Lamoille to Troy and Newport. Work on the first ten miles has already begun.

AN electrical signal apparatus on a French Railway causes the blowing of a steam whistle upon a locomotive approaching a danger signal. The engineer is thus warned. This apparatus is found valuable in fogs and snow storms, when ordinary signals often escape notice.

THE Litchfield Car and Machine Company has begun the erection of an addition to their machine shops of 30 by 60 feet, to be used for storage purposes and a setting-up shop. The present setting-up shop will be occupied by new machinery.

By acts of the Legislature of New York and Connecticut the waters of Long Island Sound are divided between the two States for the purpose of determining fishing rights and possible questions of jurisdiction. Judge Nelson, of the United States Court, in a suit brought against the Providence Steamboat Company by a survivor of the Narragansett steamer disaster, has rendered a decision which, if sustained, will invalidate that part of the boundary agreement entered into by the two States relating to the division of the Sound. The Judge decides that Long Island Sound is a part of the Atlantic Ocean, and that its navigation is not governed by the provisions of the act regulating inland waters. Should this decision stand neither New York nor Connecticut could exercise proprietary right in the Sound fisheries.

#### Old Colony Railroad.

The income of the Old Colony Railroad Company for the years ending September 30, 1881, and 1882, was as follows :

	1881.	1882.
From passengers.....	\$1,913,925 90	\$2,107,749 68
From freight.....	1,609,395 13	1,774,643 87
From express.....	98,215 07	113,880 61
From rents.....	35,488 83	38,060 63
From mails.....	37,405 40	40,023 69
From extra baggage.....	3,345 80	3,723 90
From miscellaneous .....	48,671 93	48,176 03
	<hr/> \$3,746,448 06	<hr/> \$4,126,258 39

#### Expenditures :

Passenger department.....	\$367,017 31	\$436,801 96
Merchandise department....	481,040 19	540,827 52
Locomotive department....	628,098 31	663,437 54
Maintenance of way.....	563,626 17	626,707 79
General expense.....	226,651 31	272,301 95
Miscellaneous expense.....	125,014 37	139,995 32
	<hr/> \$2,391,447 66	<hr/> \$2,680,072 08

Net earnings.....	\$1,355,000 40	\$1,446,186 31
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#### From which deduct—

City and town taxes .....	\$23,829 33	\$33,820 37
State tax.....	84,324 52	106,917 37
Interest on bonds, debt, etc..	309,166 75	267,709 05
Rent paid for use of other roads.....	403,190 23	446,407 95
Deficit on Union Freight Railroad.....	627 72	201 88
Fall River Railroad lease account.....	.....	3,180 00
	<hr/> \$821,138 55	<hr/> \$858,236 62
Net income.....	\$533,861 85	\$587,949 69

#### Out of which there were paid :

Dividend January 1, 1882.....	\$226,014 00	
Dividend July 1, 1882.....	263,683 00	
Credited improvement acc't....	95,000 00	

584,697 00

Surplus for the year.....	\$3,252 69	
Add surplus September 30, 1882.....	759,262 98	

Total surplus September 30, 1882..... \$762,515 67

In this surplus account is contained the earnings of the company since June 1, 1882, which will form part of the dividend on January 1, 1883, and the taxes payable in November.

Compared with the previous year, the gross earnings of 1882 show an increase of \$379,810.33, the operating expenses an increase of \$288,624.42, the rental an increase of \$46,397.72, and the taxes an increase of \$32,583.89, with a decrease in interest of \$41,457.70, making the increase in net income \$54,087.84.

The increase of business made it imperative to largely increase the equipment, and extensive purchases of cars and locomotives were made during the year in addition to what could be built in the shops. Six powerful locomotives have thus been supplied, 3 of which replaced old ones, making a net increase of 3. Twenty old passenger cars were disposed of

and replaced by 22 new cars of modern style and large capacity. Eighty box-freight and 200 coal cars have also been added. The amount expended for new equipment, after deducting all sums received for the old, has been \$273,659.75, the whole of which has been charged to the expense and improvement accounts; so that while the equipment account on the books has not been increased, the value of the locomotives and cars is greater than at the commencement of the year. A further increase will be necessary during the current year, but the cost will not probably exceed one-half of that expended the past year. The report says:

Four thousand tons of steel rails and 256,162 sleepers have been used in the tracks which have been improved during the year. Out of 468½ miles operated by the company, about 300 miles are laid with steel. Advantage has been taken of the present low price of steel rails to contract for 5,000 tons for the ensuing year.

New stations have been built at Central Avenue, Bridgewater Iron Works, Pratt's Junction, West Leonister and South Fitchburg, and extensive repairs made on passenger stations at Boston and Taunton, and the work begun last year at South Abington has been completed. Land has been purchased at Taunton for a freight yard which has been partly filled and prepared for use, with about ninety-six hundred feet of side tracks, and an expensive grading done at Framingham upon lands leased from the Boston, Clinton, Fitchburg and New Bedford Railroad Company, to be used for freight purposes.

The second track between Somerset Junction and the tunnel at Fall River has been nearly completed, with the exception of some land damages to be paid; a second track on the main line has been extended from Braintree to Randolph, and from Attleborough Junction to Taunton. The cost of all these improvements has been charged to expenses, or to the improvement account reserved in previous years for such purposes.

We have now about twenty-three miles of double track out of fifty miles between Boston and Fall River, and the directors contemplate the necessity within a few years of completing the double track for the whole distance. It can probably be done out of income without interfering with reasonable dividends. The increase of business to the Cape district may also make necessary the extension of the double track to Marlborough, about twenty-four miles, and some grading has already been done for this purpose.

Under authority of the Legislature of 1882 a connecting track has been constructed between the main line and the South Shore branch in Braintree, and a new railroad has been built under the General Railroad law from the main line in Raynham to the terminus of the Whittenton branch in Taunton. This last road is intended to be a part of the main line between Boston and Taunton, New Bedford and Fall River, passing through the Wales Street Station in Taunton. It has been thoroughly built, with a double track of steel rails, and no crossings of highways at grade except near stations. There are still some land damages to be paid and station buildings to be constructed near the Whittenton Mills.

Under a contract with the city of Boston, the work of raising the railroad over D street has been commenced. Its probable cost will be \$35,000; of this sum, \$28,460.15 has been charged off this year.

During the year, a lease for ninety-nine years has been taken of the Fall River Railroad between Fall River and New Bedford, under the provisions of chapter 62 of the Acts of 1882. The Boston, Clinton, Fitchburg and New Bedford Railroad Company has exercised its option to share in this lease. The rental is to be thirty per cent of the gross earnings. Nearly all the stock and a major part of the bonds of the Fall

River Railroad Company are held by or in the interest of this company.

The business of the Fall River Line to New York has been prosperous during the year, and a dividend of eight per cent on the shares of the Steamboat Company owned by this corporation has been received. The new steamship Pilgrim is nearly completed, and will be placed on the line next year. A new freight steamboat has also been built, and will be ready for business by January 1, 1883. It now seems that the investment of this company in the stock of the Steamboat Company will prove satisfactory.

The land on Fourth street in Boston has been paid for, and a very important contract has been made with the South Boston Iron Company, which is the owner of nearly all the land available for railroad purposes between Fourth street in Boston and Fort Point Channel. About 40,000 feet of land most necessary for use has been purchased and conveyed to the company, and the option has been secured for the purchase of all the remaining land of the South Boston Iron Company upon advantageous terms. If the increase of business should make it necessary, the company can become the owners, at a fair price, of about four acres of land in the immediate vicinity of the railroad, and well situated for its business.

Notes having more than one year to run have been issued during the year to nearly the extent authorized last year, and it may be necessary during the coming year, for the convenient transaction of the business of the company, to issue such notes; and the directors ask for authority to issue notes or bonds to an amount not exceeding five hundred thousand dollars. The attention of stockholders is called to the fact that the balance of interest paid has been reduced the past year by the sum of \$41,457.70.

Of all the expenditures made in the past year nothing has been charged to construction except for the purchase of land and for the cost of the railroad from Raynham to Taunton, including freight yard at Taunton. These charges amount to \$287,364.60. The construction account has been reduced by the sum of \$5,427.39 received from the Boston, Clinton, Fitchburg and New Bedford Railroad Company for its proportion of the cost of the Whittenton branch. Many of the expenditures made have increased the value of the property. The business of the company has been prosperous, but, with the uncertainty of the future, the directors have considered it the wisest policy to pay out of the income, so far as possible, for all improvements made. If the present business continues this can do no harm. If, as is not improbable, there shall be a diminution in the amount of the business, it will be easier to pay dividends and interest upon the present stock and debt than upon an increased amount of capital. The dividend was increased in July to three and one-half per cent, which can probably be maintained in future at the same rate, unless unforeseen accidents prevent. A considerable sum has been expended in the year upon the improvement of the property, and if necessary should require the expenses can be reduced in future years without impairing it. The directors have followed the course adopted in previous years in crediting to improvement account \$95,000 from the surplus income remaining after payment of dividends. There now remains to the credit of this account the sum of \$85,719.27.

The equipment of the road, including that received from the leased lines, is as follows: 65 passenger, 35 freight and 13 switching locomotives; 225 passenger, 43 baggage, 902 box, 6 caboose, 644 platform, 40 cattle, 72 stone, and 1,192 coal and gravel cars.

Number of miles run by passenger trains, 1,493,221; by freight trains, 887,849; by gravel and other trains, 460,837—total, 2,841,907, against 2,654,840 in 1881, an increase of 187,067.

Number of passengers carried, 6,593,471; do. carried one mile, 100,460,413—an increase

in passengers carried of 669,441, and in the number carried one mile of 11,272,830.

Number of tons of merchandise carried, 1,552,616; do. carried one mile, 58,349,479—an increase in tons carried of 110,998, and in the number of tons carried one mile of 4,555,078.

#### BALANCE SHEET, Sept. 30,

	1881.	1882.
Construction.....	\$10,794,338 62	\$11,076,275 83
Equipment.....	1,191,319 08	1,191,319 08
Old Colony Steamboat Co. (stock account).....	735,500 00	735,500 00
Fall River, Warren and Providence R. R. Co. (bond and stock ac't).....	348,655 43	348,655 43
Nantucket and Cape Cod Steamboat Co. (stock account).....	15,340 83	15,340 83
Dorchester and Milton Branch.....	36,937 88	36,937 88
Union Freight R. R. Co. (stock account).....	79,014 42	79,014 42
Union Freight R. R. Co. (property account).....	22,463 75	22,463 75
Land ac't'n, Boston, Clinton, Fitchburg and New Bedford Division.....	1,153 52	16,511 52
Real estate.....	286,987 53	286,987 53
Cash.....	154,551 38	161,730 21
Materials on hand.....	387,200 95	390,443 37
Due from agents.....	172,537 23	148,613 40
Bills receivable.....	214,939 50	400,938 31
Debit balances.....	87,398 84	82,479 64
Total.....	\$14,518,398 96	\$14,983,211 20
Capital stock.....	\$7,533,800 00	\$7,533,800 00
Bonded debt.....	5,324,000 00	5,324,000 00
Bills payable.....	208,057 95	738,055 95
Accounts payable.....	230,740 30	271,919 52
Dividends unpaid.....	14,876 41	21,871 41
Coupons unpaid.....	12,530 00	12,215 00
Due connecting lines.....	149,228 26	111,399 26
Credit balances.....	126,035 62	121,715 12
Improvement account.....	159,867 44	85,719 27
Surplus.....	759,262 98	762,515 67

Total, as above.....\$14,518,398 96 \$14,983,211 20

President.—CHARLES F. CHOATE.

Directors.—Charles F. Choate, Frederic L. Ames, Thomas J. Borden, John S. Brayton, Samuel C. Cobb, Uriel Crocker, Samuel L. Crocker, Francis B. Hayes, George Marston, William J. Rotch, John J. Russell, Royal W. Turner, Elisha W. Willard.

Treasurer.—JOHN M. WASHBURN.

SECTION 2 of "Knight's New American Mechanical Dictionary," from the publishing house of Houghton, Mifflin & Co., Boston, just out, begins in the letter "C" and ends in "H." The work, concerning which an extended notice has appeared in these columns, contains a description of tools, instruments, machines, processes, and engineering, with indexical references to technical journals (1876-1880). It is illustrated with more than three thousand engravings. The author, Edward H. Knight, A.M. LL.D., is Chevalier de la Légion D'Honneur, was Commissioner of the United States at the Paris Exposition of 1878, a member of the International Juries, Philadelphia, 1876, Paris, 1878, and Atlanta, 1881; he is a member of the Société d'Encouragement pour La'Industrie Nationale, Paris, of the Société d'Histoire et d'Archéologie, Beaune, and was formerly examiner and is now in charge of the classification and publications of the United States Patent Office. The "New Mechanical Dictionary" is worthy of both him and its publishers, and is invaluable, not to say indispensable, to those who have occasion to use such a work. Its illustrations and letter-press, produced at the Riverside Press, Cambridge, are handsome and carefully prepared. We unreservedly commend this work of reference to all who need a trustworthy and convenient mechanical dictionary.

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We invite railroad officers to send us notice of elections, transfers, appointments, resignations, etc.; and all our readers would oblige us by furnishing for our columns any items of personal information, which may come to their knowledge, and are adapted to this department. We aim to record all new railway enterprises in the United States and Canada, and to note the progress of construction on all new roads and extensions; and we request all concerned in railway building to give us early information regarding the above, that our reports may be as complete as possible.

Subscribers are requested to report to our office any irregularity in receiving the JOURNAL.

Contributed articles relating to Railroad matters generally. Mining interests, Banking and Financial items, Agricultural development, and Manufacturing news, by those who are familiar with these subjects, are especially desired.

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## OURSELVES.

THIS copy of the AMERICAN RAILROAD JOURNAL represents an issue the contents of which are average as to both their comprehensiveness and quality. We respectfully request that the person into whose hands this may fall, and who is not already a subscriber to the paper, examine it with attention. He will find in it, we are quite sure, the latest information on railroads and related subjects, presented in a compact, well-arranged, ably-written and very presentable form, the product of great labor and enterprise, valuable in a particular manner to persons directly interested in the subjects represented, and instructive to every reader seeking additions to his fund of knowledge on live subjects. This is a practical journal, and, as a matter of course, makes no pretensions to great superiority in its literary contents, and has no ambition to gratify by its appearance the artistic weaknesses of esthetic people. But appearance and style are by no means neglected on this account. On the contrary, such attention is given these particulars as evidence proper respect for an intelligent and refined public, and make the paper welcome for its agreeable qualities. There is no vanity in saying that the AMERICAN RAILROAD JOURNAL is the oldest and certainly one of the best papers published, dealing with its class of subjects. Its books numerously contain the names of prominent men who have subscribed for it many years, and a glance at its advertising columns convinces of the value set upon its announcements by business houses of high standing. Special endeavors have been made of late to improve the paper, and the steady gain in the number of its subscribers and advertisers, together with the liberal expansion of the correspondence addressed to this office by inventors, manufacturers, railroad and professional men and others, are expressions of appreciation which the publishers and editors most cordially acknowledge. The still further enlargement of its subscription list and advertising patronage would correspondingly increase the copiousness, value and interest of its reading matter. Railroad men now serving in a humble capacity, but who aspire to a prominent and honorable position in the business, find in the AMERICAN RAILROAD JOURNAL an invaluable aid to progress, seeing that nothing is wanting in its columns to a comprehensive contemporary view of the great interest with which they are identified; and youths and young men of promise employed on railroads and elsewhere, would be encouraged and stimulated in their work by the circulation of this journal among them. Of inestimable value through a half century, the AMERICAN RAILROAD

JOURNAL will continue to be made, by the best efforts of all concerned in its production, one of the most trustworthy and useful periodicals of its kind published either in Europe or America.

## REFRIGERATOR MEAT TRANSPORTATION.

A REVOLUTION is impending in the flesh meat traffic. It is a distinctive trait of the Anglo-Saxon branches of the human family that they consume large quantities of flesh as food; that of the ox, sheep and pig being the more staple varieties. Whether the pluck and perseverance of this race is to be attributed to this exceptional diet or not is a question for discussion. The mass of the peasantry of Europe, from the Mediterranean to the Arctic Sea, consume very little animal food; the grains, esculent vegetables and fruits being sufficient to sustain them in health and labor during a long lifetime. The mass of the population in Turkey, Prussia, Hindooostan, China and Japan live even more exclusively upon the vegetable products of the soil. It is evident, therefore, that a meat diet is not especially necessary to the preservation of life, nor to the development of physical energy.

Those who have traveled along the Mediterranean coast, or who have witnessed the feats of labor performed by the Greeks, Slavs and Chinese, can testify to the great strength and muscular endurance generated by vegetable food. Yet it is a common theory that animal food does immediately confer strength upon the consumer. It is for the most part, when not putrescent and simply cooked, easily digested and contains stimulating properties which do call out the reserves of strength stored in the nerve-centers. This, no doubt, is mistaken for added strength; whereas, in reality, it is an expenditure of power—an exhaustive process. It is also a favorite theory with some that the fighting qualities of the British and Americans are to be attributed to their flesh diet. This, if true, is a qualification which has its bad as well as its good side. It may render them invincible against an organized army, but it may also make them pugnacious in individual instances; and hence much of the quarrelling, turbulence, bloodshed and homicide, of which the courts alone take notice, may with equal reason be attributed to this source.

As civilization advances there will be less and less call for fighting, and more and more for working and saving; and hence, if the belligerent disposition is caused by the daily beef-steak, the sooner we begin to abandon it the better. The superior aptitude of the English

as colonists, who by the way have usually been also aggressors and plunderers, may thus be accounted for.

Whatever may be the truth about these speculations, it is demonstrable that butchers' meat is relatively an expensive kind of food. This is especially true of pork. There are all through this country families who are kept poor by the incessant demands of the butcher. The habit once contracted, it is as imperious as tobacco or alcohol; the supply must be kept up at whatever cost. Quite recently, through the exportation of large amounts of beef cattle, the fact began to dawn upon dealers that the supply was running low, and the price of carcasses ran up in New York as high as fifteen and sixteen dollars per hundred pounds. Thus began a great curtailment of flesh food for the common laborer. Resort was then had to pork and mutton. Mutton is equally nourishing and less stimulating, and therefore less harmful. Pork and hog products of all kinds are the dearest and most mischievous of human foods. It takes on an average more than 300 pounds of good corn to make 100 pounds of pork. In nutritive value, though not perhaps in market price, the corn before it is turned into swine's flesh is greater than the pork is afterwards. So far as the lard product of the hog is concerned, it is almost an unmitigated evil when introduced into the human economy.

A large part of the price of beef, mutton and pork is made up in the cost of transportation; and this has been because the supplies must be drawn from such long distances. The great meat lands of the United States have been pushed westward until now the extensive uninclosed plains of Texas, Kansas and Nebraska are the most prominent fields for the heavy supplies. To bring a steer from such immense distances by rail adds considerably to his value in the original pasture, partly because of the shrinkage in weight, from the risk and loss by death or accidents, and partly because of the fact that only from one-half to two-thirds of the weight transported was available as food at its destination.

Quite recently an experiment on a large scale has been attempted for bringing cattle already slaughtered and dressed in refrigerator cars instead of on the hoof. The first effect was to precipitate a great fall in price in the New York market. Its success was so complete as to leave no doubt as to its feasibility, and henceforth we may expect to see a more equable supply of cattle, and prices ruling generally lower. This, however, will engender a demand for more meat, and so tend to an equilibrium in prices. In another column will be

found some testimony as to the results of the process thus far.

It is reported that Mr. VANDERBILT has joined Mr. EASTMAN, the great live-stock dealer, in founding another company for slaughtering the bulk of the cattle at the West, instead of bringing them alive as heretofore. The slaughtering of animals is itself a cruelty. It causes cruelty to them in transit before slaughter, and is from beginning to end shocking to the finer feelings. Anything that will tend to do away with this feature, and at the same time lessen the cost of living, will be hailed as a step both agreeable and profitable.

What has been done with oxen will be done with sheep and pigs. The process is to reduce meat immediately after slaughter to a temperature that gives the freezing point, and by means of cars with ice, properly ventilated, to maintain it at a low temperature. Molecular change of the tissues of the meat goes on slowly, and is analogous to that which has long been practiced in New York by the best butchers, and has given this city its reputation for tender meats. It is well known that freshly killed beef is tougher, and apparently less sweet to the taste, than that which has been kept at a low temperature for some time. In the same way it is the practice with the large stock houses of New York to keep meat from three to five days, and in winter from seven to ten days, before it is offered for sale to the hotels, restaurants, etc. This involves a large capital to carry a stock of meat for that length of time.

After the new plan the time passed in the car will be the equivalent of what has heretofore been passed in the ice-houses. Of course, it is decomposition and incipient rotting of the muscular fibres of the flesh which produce a tenderness so much coveted by all good livers, and no doubt a large amount of the serofulous and febrile diseases prevailing among so-called civilized communities is due to the consumption of the deteriorated flesh food. The prevailing diseases of a flesh-eating people differ in type from those of the vegetarian natives; and it is said on high authority that wounds received by the latter heal much more promptly and certainly than the former. The flesh of a diseased or tortured animal is in extreme cases known to be poisonous. How many of the cattle slaughtered in New York are maddened and diseased at the time of their death. If the new method of supplying the East with beef shall prove to be a true economy, it will be a blessing to the health of the people as well as a saving of rolling-stock and power to the railroads.

#### Literary Men and the Midnight Oil.

BALZAC, among French writers, is a conspicuous example of the literary man, who in Shakespearean phrase, "doth make the night joint laborer with the day." When at work on "Le Medecin de Campagne"—that book which he estimated to be worth more than a law or twenty victories—he only slept five hours a day. He wrote from midnight till noon, then corrected proofs till four o'clock. The brief remaining interval was occupied with dining and a short promenade. Balzac had various expedients for increasing the number of hours in the day, and for getting the most labor out of himself. Craving inordinately for fame, as he so many times acknowledged in his letters to his sister, he was ready to make any sacrifice to realize the desire. At one time he "went to sleep with the fowls," at six or seven o'clock in the evening, rose at one in the morning, and scribbled till eight; then slept for an hour and a half; breakfasted and returned to harness, dining at five, and then to bed. Another practice of his was to sleep from one o'clock in the day to half-past six, and to write from seven in the evening until seven in the morning. "One must turn out copy all night and slumber by day to reach the results at which I aim," he said. He went into a kind of perverted training for this match with time—as exhausting as most matches of the kind. How fatally it terminated, hastened by the abuse of coffee, is a mournful page of literary biography. But when the curtain fell on the last act of the drama of his life, Honore de Balzac was famous. A celebrated living English novelist, whose books are decidedly sensational in color, may be said to resemble the great French romancist in at least one particular. He is reported to begin his day at six in the evening, and to struggle gamely on till six the next morning. The late Mortimer Collins, we are told, was an habitual "borrower of the night," beginning his writing when the rest of the household had retired to rest, and continuing it till dawn. Carlyle, during the period of his greatest mental activity, sat at his desk till two in the morning, though it is only fair to say that of late years he has strongly shown a belief in the early hours of the day. Thackeray, too, used often to write far into the morning; and some of Poe's best sketches were midnight pennings. "Even ourselves," writes Elia, characteristically, after having enunciated his belief that the candle is a kindlier luminary to the inspiration of genius than the sun or moon, "in these our humbler lucubrations tune our best-measured cadences (Prose has her cadences) not unfrequently to the charm of the drowsier watchman 'blessing the doors,' or the wild sweep of winds at midnight." Indeed, a close comparison of the habits of men of letters will show that a large proportion of them do their work whilst the rest of the world is wrapt in slumber.—*London Globe*.

CANAL superintendent Dutcher, of New York, announces that unless sooner closed by ice navigation on the Black River Canal will close November 23, and on the Erie, Champlain, Oneida, Cayuga and Seneca canals December 7.

## CANADIAN DEPARTMENT.

MR. JAMES J. WHITE, Ottawa, Canada, writer of "Our Canadian Letter," acts as agent for the AMERICAN RAILROAD JOURNAL COMPANY, in Canada. He is authorized to receive, in behalf of the company, subscriptions and advertisements for this journal; also news of the character which he can utilize in the preparation of his Letter, or send to us for use elsewhere within these columns. He respectfully invites information concerning Railroad matters generally, Mining, Banking, Finance and Manufactures.

### OUR CANADIAN LETTER.

[From our Special Correspondent.]

#### THE HUDSON BAY ROUTE—THE SOURIS AND ROCKY MOUNTAIN RAILROAD—MINING, RAILROAD AND OTHER NOTES.

##### THE CANADA PACIFIC RAILROAD.

MR. COLLINGWOOD SCHRIEBER, engineer in chief of the Government railways, who lately returned from an inspection of the Canada Pacific says:—

"The long and short of the whole matter is that the Canada Pacific Railway is being pushed forward by reliable contractors in all sections with the utmost possible speed. The rails are being laid down toward the Rockies at the rate of three or four miles per day. Along the entire line of route a population is springing up that in the judgment of the best authorities will make the road, irrespective of trans-continental freight, self-sustaining in ten years, and the company have every reason to believe that every yard of the road from Calendar to Port Moody, along the great lakes, over the prairies and through the mountains, will be completed in the year of our Lord 1887."

##### THE SOURIS AND ROCKY MOUNTAIN RAILROAD.

E. A. C. Pew, president of the Souris and Rocky Mountain Railway Company, leaves for England about November 25, in connection with matters concerning this and other schemes. Mr. Pew is the contractor and principal owner of the Souris and Rocky Mountain Railroad, and with his characteristic energy will push the construction of the road through rapidly. The first fifty miles will be completed by the 1st of June next, and the whole of the line within — years. The location of the lands granted to this company will soon be made known by the Government. The railway will pass through Rapid City, Fort Ellice, Battleford and Edmonton. The country through which the line will pass is considered the finest in the northwest, and is along the old route of the Canada Pacific Railway as located by Sandford Flemming—but which has since been changed by the present Government and the Canada Pacific Railway Company. Most of the settlements in the northwest exist along the proposed line of the Souris and Rocky Mountain Railroad.

Sir Hugh Allan & Co. have purchased the Portage, Westbourne and Northwestern Railway, and intend to complete the road by next fall. The new company have obtained running power over the Canadian Pacific from Portage La Prairie to Winnipeg, and that city will eventually be the eastern terminus of the road.

##### THE HUDSON BAY ROUTE.

The Saskatchewan Herald says:—

"Gen. Rosser is now chief engineer of the Winnipeg and Hudson's Bay Railway, and has

sent out an expedition to take preliminary soundings and lines. Work on location will begin at Churchill and proceed toward Winnipeg. Construction will begin at the Winnipeg end, and the General stated that he believed the contract for its construction had already been let to Mr. P. J. Brown. Gen. Rosser has great faith in the Hudson's Bay route, and believes that the time is not far distant when the grain of the whole northwestern country, including Minnesota and Dakota, will find its way to Liverpool by this route. There are two Hudson's Bay railway companies. The one Gen. Rosser is connected with is the Winnipeg and Hudson's Bay Railway and Steamship Company. He will join the expeditionary force lately sent out, in December or January next. He will make the trip in company with Mr. Ross, with dog teams, a number of which have been ordered to come up from the Norway House as soon as ice forms on the streams." The people of the United States are as deeply interested in the Hudson Bay scheme as are the people of Canada, and should it prove successful it will revolutionize the commerce of the whole continent.

The advocates of the counter movement to connect Lake Superior by canal with the Red River Country of the North, thereby opening by water, communication between the Winnipeg basin and the Saskatchewan Valley and the Lakes, claim with reason that their scheme is as practicable as the Canadian scheme. The American people should agitate the matter without delay, otherwise the Canadians will reap the advantage of the carrying trade. The Canada Pacific and the Hudson Bay route or the Canada Pacific Railway alone, will carry the great bulk of the trade between Asia and Europe, and a large portion of that of the United States. Churchill River (Hudson Bay) which is open early in spring and late in fall, is nearer Liverpool by 165 miles than Montreal, and but 500 miles from Winnipeg and the center of a great wheat district. By this route over 1,300 miles of railway carriage will be saved between shipping point and Liverpool.

The Niagara Bridge Company will apply to the next Parliament for authority to build a bridge somewhere between Lewiston and Niagara Falls.

By Order-in-Council the toll on crude gypsum going east through the Welland Canal and west through the St. Lawrence canals, will be five cents per ton.

The total value of dutiable goods entered in Canada during September, for consumption, \$8,773,644; duty was \$2,212,368; amount of free goods, \$2,908,890.

The New York and Lake Champlain Transportation Company have shipped to the United States, from Ottawa, on American boats, 16,954,571 feet of lumber.

It is reported that Messrs. H. Nichols & Son, of New York, have purchased the Allan Phosphate mine, near Ottawa. Twenty thousand dollars was given as an equivalent for a quantity of ore ready for shipment and \$125,000 in a joint stock company with a paid up capital of \$250,000. Mr. Kyle, of New York, and other American capitalists are interested in the mine.

Deputy Minister of Marine and Fisheries,

William Smith, Esq., left Ottawa, Wednesday last, for Toronto, to confer with the Chairman of the Board of Steamboat Inspectors and others, with a view of taking further measures for the improvement and safety of inland navigation and for the construction of a better class of Lake steamers and vessels. He will also visit the light-houses and life-saving stations on the upper lakes.

##### IN RE IRON ORE.

A good deal is being written and said about regretting that so much fine iron ore is shipped out of Canada to the United States instead of being smelted in Canada, as it ought to be, but the truth of the matter is that this shipping of ore to the United States has done more to bring the matter of furnaces, etc. to the attention of capitalists and investors than anything else. The iron supply is inexhaustible, and lies nearly everywhere—and if parties cannot do better, why, the best policy is to sell to whoever will purchase. The Americans are the principal purchasers; and the labor created by the increasing demand for ore is of the greatest possible benefit to the localities where the ore is to be found, and Canada generally.

##### THE MONTREAL, OTTAWA AND WESTERN RAILROAD.

On Friday last, the following officers were elected by the directors: Hon. Louis Beaubien, president; J. J. C. Abbott, vice-president; Zef de Bellefeuille, secretary and treasurer. The company are to build a line from St. Jerome, near Montreal, to Maniwaki, thence up the Ottawa and Gatineau Railway and further on to a point on the Canadian Pacific Railway near Lake Nipissing. This line will open up one of the richest parts of Quebec, and the gentlemen comprising its management and directorate are among the leading men of Canada. The Hon. Louis Beaubien was one of the promoters of the Canada Pacific, and vice-president of that company; is recognized as being one of the most enterprising and honorable of men. Hon. Mr. Chapleau was the late Premier of Quebec, and resigned to accept the Portfolio of Dominion Secretary of State; and the other directors are equally prominent and influential.

##### NOVA SCOTIA MINING.

The *New Era*, of Halifax, advocates the fostering and developing of the mining industries of Nova Scotia. It recommends that roads should be built with governmental aid; a permanent exhibit at Halifax of the mineral products, where an exhibit of the precious metals would familiarize and encourage the people in developing an interest in mining; an assay department; and asks that Government take the initiative in organizing and establishing a crushing-mill in some central location, easy of access by rail or water. The Nova Scotia mines are very rich, and invite investment. For lack of capital, many owners of valuable mines are necessitated to send their ores to be crushed and reduced to Boston, New York and England.

The Moncton Cotton Manufacturing Company Mills, with a present capacity of 11,000 spindles and 240 looms, which will be increased to 22,000 spindles and 520 looms, is nearly completed. The company will manufacture gray and colored cottons, and have machinery for knitting cotton and merino hose, of which they

will produce 7,200 hose per week. The manufacture of merino hose will be the first introduced into Canada.

A deputation waited on the Finance and Minister of Customs in reference to amending the present tariff on wool.

#### FALSE INVOICES.

It is alleged by the Customs Department that exporters in New York, Chicago and elsewhere, have in several instances made false invoices to defraud the government, and the customs authorities have a "black list" which shows the names of exporters and consignees. A strict watch is now kept at all the customs ports.

#### DISSOLUTION OF MANITOBA LEGISLATURE.

A special telegram announces that Premier Norquay of Manitoba has advised the Lieutenant-Governor to dissolve the Local House, and the Governor has accepted his advice, and the writs issued at once. This action is brought about by the disallowance policy of the Dominion Government in regard to Manitoba railways.

"W."

OTTAWA, Nov. 15, 1882.

#### Furnishing Time by Telegraph.

A COMPANY has been formed in this city for the purpose of furnishing business houses, public institutions, railways, and hotels with uniform and standard time, by means of a system of clocks regulated by telegraph. The system is entirely new, and differs entirely from that at present used in Paris and Geneva. It is known as the Himmer system, and was perfected by Vitali Himmer, an Austrian, who was formerly connected with Tiffany & Co., and is the result of several years of experimenting. The apparatus is very simple, consisting of a magnet and ratchet movement, so that there is little danger of the machinery getting out of order. There is a central regulating clock which is placed in the company's office and runs according to time furnished from the National Observatory at Washington, the pendulum of which opens and closes an electric circuit with every beat. A magnet in each clock when the circuit is closed raises a gravity lever, which catches the wheel carrying the minute hand on its pinion for about one-third of a second, and the wheel is propelled one tooth. In this manner also the levers mark off seconds or any portion of time, while the electric circuit may pass through any number of clocks—a million if the wires are properly fed. In the Himmer system the circuit-breaker and time-regulator is independent of the clock and there are no springs in the mechanism, the whole action of denoting time being accomplished by gravity. Already there is a regulator in use in the offices of the company in Temple Court which regulates clocks, marking minutes, two seconds, and one second. The company has been organized with a capital stock of \$1,000,000 for manufacturing the clock, A. H. Elliott being president, B. S. Clark, secretary, and C. H. Pond, treasurer, and will at once begin to furnish time at a charge of 25 cents, 50 cents, or \$1 per month, according to the style and action of the dial, and will furnish subscribers with time indicators, connecting the same with regu-

lators stations free of charge. At present one regulator will be placed in a block so as to avoid crossing streets with wires, but eventually the whole system will be regulated from one central clock. They will work correctly as long as the batteries are in order, which will not need replenishing more than once a year. The indicators are now in use by the Pennsylvania Railroad Company, who tested them for a year. In this city they will be placed at once in the Hoffman House and in new apartment-houses up town. They will also be placed in many downtown business houses.

#### The Malacca Ship-Canal.

THE peninsula of Malacca offers an excellent field for a ship canal. It reaches through ten degrees of north latitude for a length of 700 miles, and is not more than 120 miles wide at its broadest part. The lower parts are very mountainous, but in the upper parts, where a ship-canal would be most serviceable, it is narrow and less hilly, and traversed by cross valleys suitable for waterways. In 1861 Messrs. Forlong and Fraser proposed a railway across the peninsula which would shorten the journey from Calcutta to Hong Kong by about a third. Their explorations served to show the capabilities of the passage of Krau for a canal between the Gulf of Siam and the Indian Ocean, by following the birth of the Pakeham River from the western side, and the valleys of the Choomphaum and Htaoung rivers from the eastern side. The latest project is that of M. Leon Dru, who proposes to cut his canal from the junction of the Pakeham River with the River Saona to Tasan, whence it would follow the Htaoung or Tayoung bed to the Gulf of Siam. The total length of cutting would be about sixty-six miles, or thirty-three miles less than that of the Suez cutting and twenty-two miles more than that of Panama. The expense is estimated at 100,000,000 francs.

#### Brooklyn City Railroad.

ACCORDING to a statement made by Wm. H. Hazzard, president, the Brooklyn City Railroad Company has about 700 cars, 325 of which are constantly on the tracks, averaging 2,500 trips daily and carrying 125,000 passengers, at a cost to the company of about 85 cents on the dollar. Seven hundred drivers and conductors are employed and the receipts for the year ending September 30, 1882, have been \$1,956,836.92, while the payments, including dividends, amounted to \$2,003,276.60. Mr. Hazard accounts for the excess of expenditures on the ground that the lines were extended from Broadway to Ridgewood, property bought, stables erected costing \$150,000 a new carhouse built at Greenwood and needed improvements effected, and says the company is now on a sounder basis than ever before. He complains, however, that a feeling against the company appears to exist among the masses of the people which shows itself in different ways. He thought it might have sprung up from a report that the company is doing everything it can to prevent rapid transit, which, if so, was most erroneous. The company has also been rather unfortunate, he says, in the number of

damage suits for accidents. No arrangements have yet been made for starting the cars from the terminus of the bridge when completed, but that something will soon be done in this direction is certain.

#### New Buildings at Cornell.

WITH its customary enterprise Cornell University is erecting on its Campus two new buildings. One, which will be the finest chemical and physical laboratory possessed by any college in the United States, is nearly completed. It is built of red Medina sandstone, with yellow Ohio stone trimmings, and has its outer walls inset with medallions of eminent scientists. The other building, which will be completed by the new year, is being built of brick, 100x60 feet, with arched windows, flying buttresses and a steep roof. It will be used as a drill hall and gymnasium. A costly addition to the chapel, which shall contain the sarcophagus of Mrs. Fiske and of other benefactors of the university, is contemplated, and a new and better equipped building for the departments of architecture and civil engineering is only a question of a year or two. A magnificent library building will soon be constructed, which shall meet the present and future demands of a library already large, and having the finest endowment of any college library in America, while Cascadilla Place, whose gloomy halls long ago drove out its students, is to be entirely remodeled.—*Rhaca Standard*.

#### Cotton Ties.

A DECISION was rendered in the United States Supreme Court at Washington on the 6th inst. in the case of the American Cotton Tie Company (limited) et al., appellants, against Simeon W. Simmonds et al., brought here by appeal from the Circuit Court of the United States for the district of Rhode Island. The plaintiffs were the owners of patents for improvements in metallic cotton bale ties, each tie consisting of a buckle and a band. They granted no licenses to make the ties but made them themselves and supplied the market. They stamped in the metal of the buckle the words "licensed to use once only." The defendants bought as scrap iron the buckles and bands at the cotton mills after the bands had been severed to release the bale, and rolled and straightened them and riveted together the ends of the pieces of the bands and cut them into proper lengths for ties, and sold them to be used as ties, nothing being done to the buckles. It is held by this court that the defendants infringed the patents, but it is not decided that they were liable as infringers, merely because they had sold the buckle, considered apart from the band or from the entire structure, as a tie. The decree of the court below is reversed, and the cause remanded, with directions to enter a decree for the plaintiffs in respect to claim 3 of the Cook patent and claims 3, 4 and 5 of the Brodie reissued patent and the claim of the McComb patent, for an account of profits and damages as prayed in the bill, and to take such further proceedings in the suit as may be in conformity with the opinion of this court. Opinion by Justice Blatchford.

## THE STOCK EXCHANGES AND MONEY MARKET.

## New York Stock Exchange.

Closing Prices for the week ending Nov. 15.

	Th. 9. F. 10. Sat. 11. M. 13. Tu. 14. W. 15.
Albany and Susq.	137 136
1st mortgage.....	
2d mortgage.....	
American Express.....	93 93 92 95
Burl. C. R. & Nor.	80 81
1st mortgage 5s.....	101 102 102
Canada Southern.....	67 69 70 72 72 69
1st mortgage guar 94	93 94 95
Central of N. Jersey	70 69 69 71 71 70
1st mort. 1890.....	117 116
7s, consol. ass. 108	107 108 108 108
7s, convertible ass. 109	108
7s, Income.....	85
Adjustment.....	102
Central Pacific.....	88 88 89 89 89 88
6s, gold.....	114
1st M. (San Joaq.)	105
1st M. (Cal. & Or.)	105
Land grant 6s.....	104 103
Chesapeake & Ohio.	24 24 24 24
1st pref. ....	34 35 35
2d pref. ....	25
1st mort., series B	87 86 86 87
Chicago and Alton.	140 140 141 140 141 140
Preferred.....	
1st mortgage.....	120 120
Sinking Fund.....	
Chi., Bur. & Quincy	130 130 130 130 131 129
7s, Consol. 1903.....	128
Chi., Mill. & St. Paul	103 110 109 109 108 107
Preferred.....	124 125 125 124 123
1st mortgage, 8s.....	133
2d mort., 7 3-10s.	
7s, gold.....	
1st M. (La. C. div.)	
1st M. I. & M. div.	124
1st M. (I. & D. ext.)	
1st M. (H. & D. div.)	
1st M. (O. & M. div.)	
Consolidated S. F.	125
Chi. & Northwestern	143 143 141 142 141 138
Preferred.....	160 162 161 161 157
1st mortgage.....	106
Sinking Fund 6s.....	
Consolidated 7s.....	
Consol. Gold bo'ds	127 126 127
Do. reg. ....	126
Chi., R. Irl. & Pac.	130 130 130 128 128
6s, 1917, c.....	127 127
Clev., Col., Clin. & Ind.	80 81 82 81 82 81
1st mortgage.....	120
Clev. & Pittsburg gr.	139
7s, Consolidated.....	
4th mortgage.....	110
Col., Chi., Ind. Cent.	8 1/2 8 1/2 8 1/2 8 1/2 9 1/2 8 1/2
1st mortgage.....	
2d mortgage.....	
Del. & Hud Canal.	112 112 112 112 113 113
Reg. 7s, 1891.....	115
Reg. 7s, 1894.....	113
Del. Lack. Western	132 132 132 132 132 131
1st mortgage 7s.....	
Consol. 1907.....	
Eric Railway.....	
1st mortgage.....	125
2d mort. 5s, ext. 108	
3d mortgage.....	101 101
4th mort. 5s, ext. ....	102
5th mortgage.....	
7s, Consol. gold.....	127 127
Great West. 1st mort 105	
2d mortgage.....	99
Hannibal & St. Jo.	
Preferred.....	80 80
8s, Convertible.....	104 105
Houston & Tex. Can.	76 73 78
1st mortgage.....	109
2d mortgage.....	
Illinois Central.....	147 147 148 148 149 148
LakeShore & Mich So.	113 115 115 116 115 114
Consol. 7s.....	
Consol. 7s, reg. ....	
2d Consolidated.....	124 123
Leh. & W. B. cons. ass	102 102
Long Dock bonds.....	
Louisville & Nash.	48 48 49 51 52 51
7s, Consolidated.....	114
Manhattan.....	50
1st pref. ....	
Met. Elevated.....	77 87
1st mortgage.....	99 100
Michigan Central.....	100 101 102 102 100
7s, 1905.....	
Morris & Essex.....	126 126 125 125 125
1st mortgage.....	

2d mortgage.....	
7s of 1871.....	
7s, Convertible.....	124 124 125 125
7s, Consolidated.....	124 124 124 124 130 130
6s, S. F. 1883.....	100
6s, S. F. 1887.....	100
1st mortgage.....	133
1st mortgage, reg. ....	133
N. Y. Elevated.....	100
1st mortgage.....	115 115 115
N. Y. & Harlem.....	
Preferred.....	
1st mortgage, reg. ....	130
1st mortgage, reg. ....	130
N. Y. Lake Erie & W.	38 38 38 39 39 38
Preferred.....	81 81
2d Consolidated 7s.....	98 99 100
New ad 5s fund.....	97
N.Y., N.Hav'n&Hart	185 184 184 184
North Mo. 1st mort.....	118
Northern Pacific.....	43 43 44 44 44 44
Preferred.....	90 91 91 92 92 91
Ohio & Mississippi.....	35 36 37 36 36 35
Preferred.....	
2d mortgage.....	120
Consolidated 7s.....	118
Consol. S. Fund.....	
Pacific Mail S. S. Co.	38 38 38 39 40 39
Pacific R. R. of Mo.	
1st mortgage.....	106
2d mortgage.....	
Panama.....	
Phila. & Reading.....	56 56 57 57 56 56
Pitts. Ft. W. & Chi. gtd	136
1st mortgage.....	134
2d mortgage.....	
3d mortgage.....	
Pullman Palace Car	123 124 124 125 125 125
Quicksil'r Min'g Co	8 9 9 9 9
Preferred.....	41 43 43 43
St. Louis & San Fran.....	37 36 37
Preferred.....	56 55 54 56 56
1st Preferred.....	97 96
St. L., Alt'n & T. H.	39 41 41 41
Preferred.....	80 82 82
1st mortgage.....	
2d mort. pref. ....	96
Income bonds.....	
St. L., Iron Mt. & S.	
1st mortgage.....	116
2d mortgage.....	105 104
Toledo and Wabash.....	
1st mortgage.....	107
2d mortgage.....	
7s, Consolidated.....	
St. Louis Division.....	
Union Pacific.....	106 105 105 106 106 105
1st mortgage.....	115 115
Land Grant 7s.....	110
Sinking Fund 8s.....	116 117 118
United States Ex.....	67
Wabash, St. L. & Pac.	32 33 33 34 33 32
Preferred.....	58 58 60 59 58
New mort. 7s.....	
Wells-Fargo Ex.....	130 129 130 130
Western Pacific b'ds.....	
Western Union Tel.	79 79 80 82 82 81
7s, S.F.conv., 1900.....	
FEDERAL STOCKS:-	
U. S. 4s, 1907, reg. ....	119 118 119
U. S. 4s, 1907, coup. ....	119 118 119
U. S. 4 1/2s, 1891, reg. ....	112
U. S. 4 1/2s, 1891, coup. ....	
U. S. 5s, 1891, coup. ....	
U. S. 3s, reg. ....	102 102 102
Dt. of Col. 3-6s, reg. ....	
Dt. of Col. 3-6s, coup. ....	
Boston Stock Exchange.	
Closing Prices for the Week Ending Nov. 15.	
Th. 9. F. 10. Sat. 11. M. 13. Tu. 14. W. 15.	
Atoch., Top. & San. Fe.	84 84 84 84 84 84
1st mortgage.....	118
Land Grant 7s.....	
Boston & Albany.....	174 175 173 174 174
Boston and Lowell.....	
Boston & Maine.....	
Boston & Providence	161 161 160
Bow'n, Hart. & Eriey's	50 50
Burl. & Mo. R. L. G. 7s	
Burl. & Mo. R. in Neb.	6s, exempt.....
	112 112
Chi., Burl. & Quincy	130 130 130 131 131 129
Cin., Sand & Clev. (\$50)	29 29 29
Concord (\$50).....	
Connecticut River.....	164 164
Eastern.....	38 39 37 37
New 6s, Bonds....	109 109 109 109 109
Fitchburg.....	135
N. Y. & New England	50 50
7s.....	
Northern N. H.....	
Norwich & Worcester.....	
Ogden & Lake Cham.....	
Old Colony.....	138 137 137 137
Ph., Wil. & Balt. (\$50).....	64
Portl'd, Saco & Ports.....	
Pueblo & Ark. Val 7s.....	113 114
Pullman Palace Car.....	125 125
Union Pacific.....	106 105 105 106 107 106
6s.....	
Land Grant 7s.....	110
Sinking Fund 8s.....	
Vermont & Mass.....	132
Worcester & Nashua.....	59
Cambridge (Horse).....	
Metropolitan (Horse).....	
Middlesex (Horse).....	
Cal. & Necla Min'g Co	250 250 251 250 251
Quincy.....	68 67 67 67
Philadelphia Stock Exchange.	
Closing Prices for the Week Ending Nov. 14.	
W. 8. Th. 9. F. 10. Sat. 11. M. 13. Tu. 14.	
Allegh'y Val. 7 3-10s.....	122
7s, Income.....	48 48
Buff., Pitts. & West.....	19 19 19 19 20 20
Cam'd'n & Am. 6s, '83.....	101
6s, 1889.....	
Mort. 6s, 1889.....	112 112 112
Camden & Atlantic.....	
Preferred.....	
1st mortgage.....	
2d mortgage.....	
Catawissa.....	
Preferred.....	
54	
2d pref. ....	
7s, new .....	
Del. & Bound Brook.....	
7s.....	125
Elmira & Williamspt'.....	
Preferred.....	
Hunt. & B. Top Mt.	17
Preferred.....	
ad mortgage.....	
Lehigh Navigation.....	41 41 42 42 42 42
6s, 1884.....	103
Gold Loan.....	108 112 112
Railroad Loan.....	114
Conv. Gold Loan.....	108
Consol. Mort. 7s.....	
Lehigh Valley.....	64 64 64 65 65
1st mort. 6s, coup.....	122
1st mort. 6s, reg. ....	
ad mort. 7s.....	132
Consol. mort. 6s.....	121
Consol. mtg. 6s, reg	122
Little Schuylkill.....	58 58 58 58 58
Minehill & Sch. Hav'n.....	
North Pennsylvania.....	64
1st mortgage 6s.....	
2d mortgage 7s.....	
Genl. mtg. 7s, coup.....	
Genl. mtg. 7s, reg.....	
Northern Central.....	56 55 56 57
58.....	98
Northern Pacific.....	43 44 43 44 44 44
Preferred.....	90 91 91 92 92 92
Pennsylvania R. R. ....	59 59 59 60 60 60
1st mortgage.....	
Gen'l mort. ....	
Gen'l mort. reg. ....	
Consol. mort. 6s.....	
Consol. mort. reg. ....	
Pa. State 5s, new.....	117 118
do 4s, new.....	113
do 3 1/2s, 1912.....	
Phila. & Reading.....	27 28 28 28 28 28
1st mortgage 6s.....	
7s, new convert.....	
Consol. mort. 7s.....	
Consol. mort. reg. ....	
Gen'l mort. 6s.....	94 94 94 94 94
Def. Income bonds.....	
Philadelphia & Erie.....	21 21 21
1st mortgage 5s.....	102 102 102 102
2d mortgage 7s.....	114 114
Pitts., Cin., & St. L. 7s.....	
Pitts., Tit. & Buff. 7s.....	
Schuylkill Navi'tn.....	
Preferred.....	
6s, 1897.....	80
6s, 1907.....	80
United Co. of N. J.....	190 190 190
Houstonville, (Horse).....	
Chestnut & Walnut.....	

## Baltimore Stock Exchange.

Closing Prices for the Week Ending Nov. 14.

W. S. Th. 9. F. 10. Sat. 11. M. 13. Tu. 14.

Baltimore & Ohio.....	193	193	.....	.....
6s, 1885.....	.....	.....	104 1/4	104 1/4
Central Ohio (\$50).....	.....	108	.....	108
1st mortgage.....	.....	.....	.....	.....
Marietta & Cincin'ti.....	.....	.....	.....	.....
1st mortgage, 7s.....	.....	100 1/4	.....	101 1/4
2d mortgage, 7s.....	.....	56 1/2	57	57
3d mortgage, 6s.....	.....	56 1/2	57	57
Northern Cen. (\$50).....	55 1/4	56 1/4	.....	57
2d mort. 6s, 1885.....	.....	.....	.....	.....
3d mort. 6s, 1900.....	.....	.....	.....	.....
6s, 1900, gold.....	116	114 1/4	.....	114 1/4
6s, 1904, gold.....	.....	.....	.....	.....
Pitts. & Connellsy. 7s.....	.....	121 1/4	.....	.....
Virginia & Consol. Consol. coupons.....	59 1/4	59 1/4	59 1/4	59
6s, 62 1/2%	62	62 1/2%	63	65
10-40 bonds.....	43 1/4	43	43	43 1/4
Def'd Certificates.....	.....	12	.....	.....
New 3s.....	.....	50	.....	.....
Western Maryland.....	.....	.....	.....	.....
1st M., end. by Balt.....	.....	.....	.....	.....
2d M., do.....	.....	122	.....	.....
3d M., do.....	125	.....	.....	.....
1st M., undendorsed.....	.....	.....	.....	.....
2d M., end. Wash Co.....	.....	.....	.....	.....
2d M., preferred.....	.....	.....	.....	.....
City Passenger B. R. ....	.....	.....	.....	.....

## London Stock Exchange.

Closing Prices—

Nov. 3. Oct. 27.

Baltimore and Ohio 5s, 1927.....	108	110	108	110
Central of N. J., \$100 shares.....	80	85	80	85
Do. consol. mort.....	110	112	110	112
Do. Income Bonds.....	88	92	88	92
Central Pacific of Cal., \$100 shs.....	93	94	93 1/4	94 1/4
Do. 1st mort. 6s, 1895-98.....	117	119	117	119
Dot. G'd Haven & Mil. Equip bds.....	118	116	118	116
Do. Con. M. sp.c., till '83 after 6p.c. 114	116	116	116	116
Illinois Central \$100 shares.....	154	155	152	154
Do. S. F. 5s, 1903.....	104	106	104	106
Lehigh Valley Cons. mort. 1923.....	115	119	115	119
Louisville and Nashville mort. 6s, 92	94	93	93	93
Do. capital stock \$100 shares.....	53	55	57	59
N. Y. Cons. & Hud. R. mort. bonds, 133	136	139	136	136
Do. \$100 shares.....	136	137	137	138
Do. mort. bonds (stdg.).....	122	124	122	124
N. Y. Lake Erie & West. \$100 shs.....	41 1/2	42	43	43 1/2
Do. 6 p. c. pref. \$100 shares.....	87	89	88	90
Do. 1st Con. Mort. bonds (Erie).....	127	130	127	130
Do. do. Funded Coupon bonds.....	124	127	124	127
Do. 2d Consol. Mort. bonds.....	101	103	102	104
Do. do. Funded Coupon bonds.....	101	99	101	101
N. Y. Pa. & Ohio 1st mort. bonds, 46 1/2%	46 1/2%	47 1/2%	47 1/2%	50
Do. Prior Lien bonds (sterling).....	100	105	100	105
Pennsylvania \$50 shares.....	65	65 1/2	65 1/2	66 1/4
General Mortgage.....	122	124	122	124
Phil. & Erie Gen. mort. 6s, 1920-17	119	117	119	117
Philadelphia & Reading \$50 shs.....	30 1/2	31	31 1/2	32
General Consol Mortgage.....	117	119	116	118
Do. Improvement Mortgage.....	103	105	102	104
Do. Gen. Mtg. '74, ex-def'd coup. 97	99	97	99	99
St. L. Bridge 1st mort. gold bond.....	121	123	121	123
Do. 1st pref. stock.....	94	98	94	98
S. P'te of Cal., 1st mort. 6s, 1905-6-107	108	106	108	108
Union Pacific 1st mtg. 6s, 1866-9-117	119	117	119	119
Wabash, St. L. & P. \$100 shares.....	34	34	33	35
Do. \$100 pref shares.....	59 1/2	60 1/2	60 1/2	61 1/2
Do. gen. mort. bonds.....	84	85	85	87

## AMERICAN RAILROAD JOURNAL.

## Financial and Commercial Review.

THURSDAY EVENING, November 16, 1882.

The quotation for call loans on stocks this forenoon was 5@6 per cent. On United States bonds the ruling rate was 3 1/4@4 per cent. Time money on stocks was 6 per cent, and on Governments 4 per cent. Prime mercantile paper was 6@7 1/2 per cent. In the afternoon the rate for call loans on stocks was 5 per cent, and in the last hour 4 per cent.

The posted rates for prime bankers' sterling were 4 1/2@4 1/2 and 4 85@4 1/2. The actual rates were 4 80@4 1/2 and 4 84 1/2@4 1/2, with cables 4 85@4 1/2, and prime commercial bills 4 79@4 1/2. The actual rates for Continental bills are as follows: France, 5 24@5 25% and 5 20@5 20%. Marks 94 1/2@4 1/2 and 95 1/2@4 1/2, and Guilders, 39 1/2@39 1/2.

The Secretary of the Treasury issued on the 10th inst. the 119th call for the redemption of bonds of the 5 per cent funded loan of 1881, contended at 3 1/2 per cent from August 12, 1881, the principal and accrued interest of which will be paid at the Treasury of the United States in the city of Washington, D. C., on the 10th day of February, 1883, and the interest on said bonds will cease on that day, viz: Registered bonds of the acts of July 14, 1870, and January 20, 1871, continued during

the pleasure of the Government under the term of circular No. 52, dated May 12, 1881, to bear interest at the rate of 3 1/2 per centum from August 12, 1881, as follows: \$50—No. B 477 to No. B 550, both inclusive, and No. B 1,605 to No. B 1,609, both inclusive. \$100—No. B 3,651 to No. B 4,300, both inclusive, and No. B 13,299 to No. B 13,331, both inclusive. \$500—No. B 1,951 to No. B 2,250, both inclusive, and No. B 5,949 to No. B 5,964, both inclusive. \$1,000—No. B 9,401 to No. B 11,500, both inclusive, and No. B 20,760 to No. B 20,813, both inclusive. \$5,000—No. B 2,501 to No. B 2,800, both inclusive, and No. B 5,801 to No. B 5,810, both inclusive. \$10,000—No. B 9,001 to No. B 11,500 both inclusive, and No. B 18,425 to No. B 18,485 both inclusive. \$20,000—No. B 1,538 to No. B 1,600, both inclusive, and No. B 2,247 to No. B 2,248, both inclusive. \$50,000—No. B 3,901 to No. B 6,600, both inclusive, and No. B 6,040 to No. B 6,046, both inclusive. Total, \$15,000,000. The bonds described above are those last dated and numbered as required by section 3 of the act of July 14, 1870, and those embraced in the highest numbers in the several denominations as given above are the bonds which have been issued on transfers since the 118th call was issued. Many of the bonds originally included in the above numbers have been transferred or exchanged and cancelled, leaving outstanding the amount above stated.

The report of the New Haven, Derby and Ansonia Railroad Company for the year ending September 30, 1882, shows earnings of \$1,66,402.84; operating expenses, \$88,012.96; other expenditures, \$63,234.91; net earnings, \$78,389.98, against \$48,267.85 in 1881. The number of passengers carried is 197,749, an increase of 39,366, and of tons of freight, 127,192, an increase of 11,608.

The receipts of the New York and Brooklyn Bridge Company in October were \$2,678.33, and the expenditures, \$72,398.06. The total receipts up to October 31 were \$14,072,703.16, and the total expenditures, \$14,045,683.86.

The arrangements for the sale of the Marietta and Cincinnati Railroad, and the reorganization of the Company, have been completed. The sale will be made at the Court House of Ross county, at Chillicothe, Ohio, on the 9th of December. Over 95 per cent of the holders of securities have assented to the scheme of reorganization and the time of allowing others to participate has been extended to the 15th of December.

The annual statement of the East Tennessee, Virginia and Georgia Railroad Company, submitted at the annual meeting held at Knoxville, Tenn., on the 8th inst., shows the following result: Gross revenue from 900 miles of road, excluding that from portions under construction and in hands of contractors, \$3,145,482.38; expenditures, deducting material on hand, \$1,862,022.39; net revenue, excluding that from divisions under construction, \$1,283,460; surplus after paying interest on first mortgage and income bonds, \$162,000; passengers transported, excluding those on Macon and Brunswick Division, 528,403; tons of freight, excluding Macon and Brunswick Division, 916,000. During the year 8,700 tons of steel rails were laid, making 333 miles laid with steel, exclusive of 178 miles of the Cincinnati and Georgia Division and the Knoxville and Ohio Division, which are all steel. A wharf and warehouse have been built at Brunswick, Ga.

Under the Thurman Act all that the Union Pacific Railway Company has to pay the United States Government at any time is 25 per cent of the net earnings of the main line from Omaha to Ogden—1,042 miles—which up to this time has never exceeded \$1,200,000 per year, and it has been paid under the following section of the Thurman bill: "That there shall be carried to the credit of the said fund, on the first day of February in each year the one-half of the compensation for services hereinbefore named, rendered for the Government by said Union Pacific Railroad Company, not applied in liquidation of interest; and in addition thereto the said company shall, on said day in each year, pay into the Treasury to the credit of said sinking fund the sum of \$50,000, or so much thereof as shall be necessary to make the 5 per centum of the net earnings of its said road payable to the United States under said act of 1862, and the whole sum earned by it as compensation for services rendered for the United States, together with the sum by this section required to be paid amounting in the aggregate to 25 per centum of the whole net earnings of said railroad company, ascertained and defined as hereinbefore provided, for the year ending on the thirty-first day of December next preceding." The earnings from the Gov-

ernment on the 4,000 odd miles of road owned by the Union Pacific Railway Company, 3,000 of which do not come under the provisions of the above act, have up to this time been sufficient to pay the Government for all the demands upon the company under the provisions of the Thurman act. The Government business on the branch lines increases so much faster than the Government business on the main line of the Union Pacific that, in all probability, until the debt is wiped out under the action of the Thurman act, the payments of the Government to the company will exceed those of the company to the Government.

The Chief of the Bureau of Statistics at Washington reports that the total values of the exports of petroleum and petroleum products from the United States during the month of September, 1882, were \$3,410,065, and during September, 1881, \$4,762,711. For the nine months ended September 30, 1882, \$34,356,931, and for the same period in 1881, \$34,952,061.

The earnings of the Bank of Montreal for the past half year were \$736,718, out of which a 5 per cent dividend of \$60,000 was paid. The balance carried forward including the previous half year contingent fund is \$352,122.

On Saturday last at Montreal local stocks of all kinds were demoralized. Banks and other stocks fell considerably. Money cannot be had to carry the very large amount of all kinds of securities held on margins. Holders in consequence are selling freely. Brokers are also selling out clients whose margins are exhausted. The Saturday market closed feverish and a further fall in rates is expected. Bankers think there will be no ease in money for three or four months to come.

The Canada Central Bank, with head office in Toronto, and \$1,000,000 capital, will apply to Parliament for incorporation.

On Monday the Montreal stock market was again much depressed. Bank of Montreal sold down to 20 1/2 but recovered at the close to 20. All other Bank and miscellaneous stock declined heavily.

In Toronto the stock market opened on Monday pretty steady on a basis of Saturday's prices. The principal business was in Commerce, Federal, Dominion and Standard Banks. These were steady and Standard was improved.

Counterfeit notes of the Union Bank of Prince Edward Island are in circulation throughout the country.

The Ontario Land Investment Company of Toronto will build an arcade building costing about \$200,000.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns.

New York.—Atlantic and Pacific 1st, 97 1/2%; Am. Dock and Imp. 5s, 90; Atchison, Colorado and Pacific 1st, 93 1/2%; Boston and New York Air Line pref., 79; Brooklyn, Bath and Coney Island 6s, 105 1/2%; Buffalo and Erie 7s, new, 122; Boston, Hartford and Erie 1st, 49 1/2%; Chicago, Burlington and Quincy 8s, 103; do. Denver div. 6s, 83; do. Iowa div. 4s, 84 1/2%; Columbus, Hocking Valley and Toledo, 67; Chicago, St. Paul, Minn. and Omaha, 46 1/2%; do. pref., 105 1/2%; do. consol., 107 1/2%; Chicago, St. Louis and New Orleans, 84; Cedar Falls and Minnesota, 28; Central Iowa, 32 1/2%; do. 1st, 108; Chicago and Northwestern 8. F. 5s, 99 1/2%; Chesapeake and Ohio cur. 6s, 53 1/2%; do. 1st, series A, 104; do. pur. money Fund, 114 1/2%; Chicago and Alton inc., 100 1/2%; Chicago, Milwaukee and St. Paul, La Crosse and Dav. div. 1st, 94; do. Southern Minn. div. 1st, 108 1/2%; do. Chicago and Pacific West div. 1st, 92 1/2%; Chicago, St. Paul and Minn. 1st, 111; Cleveland, Columbus, Cincinnati and Indianapolis consol., 121; Denver and Rio Grande, 48 1/2%; do. 1st, 108 1/2%; do. consol., 92 1/2%; Dubuque and Sioux City, 90; East Tennessee, Virginia and Georgia, 10 1/2%; do. 18 1/2%; do. 1st, 114 1/2%; do. 5s, 74 1/2%; do. inc., 42; Evansville and Terre Haute, 8s; do. 1st, 96; Elizabethtown, Lexington and Big Sandy 6s, 95; Fort Worth and Denver, 35 1/2%; Green Bay, Winona and St. Paul, 8 1/2%; Gulf, Colorado and Santa Fe, 1st, 107 1/2%; Houston and Texas Central Gen'l mort., 97; Hannibal and St. Joseph 6s, consol., 104; Indiana, Bloomington and Western, 39 1/2%; do. consol. inc., 50; do. 1st, 89 1/2%; do. Eastern div. 6s, 87; International and Great Northern 1st, 103; do. coupon 6s, 82; Indianapolis, Decatur and Springfield 1st, 101 1/2%; Joliet and Chicago, 140; Keokuk and Des Moines 1st, 101 1/2%; Kansas Pacific 1st consol., 101; do. 6s, 1895, 110; do. 6s, Denver div. ass., 106%; Long Island, 60 1/2%; Lake Erie and Western, 32 1/2%; do. 1st, 100 1/2%; Louisville, New Albany and Chicago,

76½; do. 1st, 103; Lafayette, Bloomington and Muncie 1st, 100; Louisville and Nashville, genl. mort. 6s, 90; do. 2d, 100; do. N. O. and Mobile div. 1st, 90; do. Evansville, Henderson and Nashville 1st, 95; do. Cecilian Branch 1st, 105½; Minneapolis and St. Louis, 28%; do. pref., 67; do. 1st, S. W. ext., 112; do. 2d, 59; Mobile and Ohio, 19; do. 1st debent., 80; do. 2d debent., 45; do. 3d debent., 38; Missouri, Kansas and Texas, 34%; do. genl. mort. 6s, 86½; do. consol., 106; do. 2d, 64%; Missouri Pacific, 104%; do. 1st consol., 99½; Milwaukee, Lake Shore and Western 1st, 99½; do. pref., 50; do. inc., 79½; Manhattan Beach, 18½; Manhattan Co., 50%; Memphis and Charleston, 52; Marietta and Cincinnati 2d pref., 4½; Michigan Southern S. F., 104%; Metropolitan Elevated 2d, 86½; New York, Chicago and St. Louis, 15%; do. pref., 31%; do. 1st, 95%; Nashville, Chattanooga and St. Louis, 54½; do. 1st, 116; New York, Ontario and Western, 27%; Norfolk and Western pref., 54%; do. genl. mort., 101; Northern Pacific 1st, 103%; New Orleans Pacific 1st, 85%; Ohio Central, 15%; do. 1st, 95; do. inc., 35; Oregon Railway and Nav., 154; do. 1st, 108½; Oregon Transcontinental, 83½; do. 1st, 108; Ohio Southern, 15%; do. 1st, 84; Oregon Short Line, 34; do. 6s, 100%; Ohio and Mississippi, Springfield div. 1st, 114; Peoria, Decatur and Evansville, 27%; do. 1st, 104½; do. Evansville div. 1st, 97½; Rome, Watertown and Ogdensburg inc., 40%; do. ext. 5s, 69%; Rochester and Pittsburgh, 22; do. 1st, 104½; do. inc., 46; Richmond and Danville, 61½; do. debent., 64%; do. 6s, 95; Richmond, Danville and West Point, 29; Remselaer and Saratoga, 142%; Richmond and Alleghany, 17; do. 1st, 82%; St. Paul and Duluth, 38%; do. pref., 94%; St. Paul, Minn. and Man., 149½; do. ad., 109½; do. Dakotah Ext. 1st, 106½; St. Louis and Iron Mt. 5s, 75%; do. Cairo and Fulton 1st, 107; St. Louis, Kansas City and Northern, T. E. 7s, 102; do. Omaha div. 1st, 106½; Southern Pacific of Cal. 1st, 103%; South Carolina 1st, 99; St. Paul and Sioux City 1st, 109½; St. Louis and San Francisco 2d, class B, 91; Texas and Pacific, 40%; do. inc. L. G., 57%; do. consol. 6s, 93; do. Rio Grande div. 1st, 81; Toledo, Delphos and Burlington 1st, 50; do. inc., 50%; Utah Southern ext. 1st, 101; Wabash, St. Louis and Pacific, genl. mort., 83%; do. Chicago div. 1st, 81½; do. Toledo, Peoria and Western 1st, 108½; Louisiana consol. ex-mat. coupon, 61½; Tennessee 6s, 45; do. compromise, 51; Virginia 6s, def., 12%; American Cable, 68; Mutual Union Tel., 27; do. 6s, 72%; Colorado Coal and Iron, 36; do. 6s, 83%; Cameron Coal, 20%; Maryland Coal, 20%; Homestake Mining, 17½; Ontario, 36.

**Boston.**—Atlantic and Pacific blocks, 104%; do. 6s, 94%; do. inc., 19%; Atchison, R. R., 4½%; Burlington and Missouri River in Nebraska 6s, non-exempt, 102; Boston Land, 6%; Boston Water Power, 2%; Boston, Revere Beach and Lynn, 119; Chicago, Burlington and Quincy 4s, plain, 78½; do. 4s, old, 83%; Connonton Valley, 4%; Connecticut and Passumpsic Rivers R. R., 92; Chicago and West Michigan, 58½; Detroit, Lansing and Northern, 75; Flint and Pere Marquette, 21; do. pref., 98; Fort Wayne and Jackson, 83; Iowa Falls and Sioux City, 89; Jackson, Lansing and Saginaw 8s, 1891, green, 112½; Kansas City, St. Joseph and Council Bluffs 7s, 113; Kansas City, Lawrence and Southern 5s, 102½; Kansas City, Fort Scott and Gulf, 75%; do. 7s, 110½; Little Rock and Ft. Smith, 49%; Marquette, Houghton and Ontonagon, 69; do. pref., 117; Mexican Central, 20; do. 7s, 71½; do. block No. 3, 94; Massachusetts Central, 4; do. 6s, 29%; New Mexico and Southern Pacific 7s, 112; New York and New England 6s, 105½; Republican Valley 6s, 102; Rutland pref., 18%; Summit Branch, 9; Sonora 7s, 102½; Toledo, Delphos and Burlington, Branch inc., 9%; do. Southeast div. 6s, 45; Toledo, Cincinnati and St. Louis, 4%; do. 6s, 60; Wisconsin Central, 16%; Aliquippa Mining Co., 2½; Franklin, 13%; Huron, 2%; Harshaw, 1%; National, 1%; Napa Consol. Quicksilver, 4%; Osceola, 33½; Pewable, 11; Sullivan, 1%.

**Philadelphia.**—Am. S. S. Co. 6s, 105; Chesapeake and Delaware Canal, 42%; do. 6s, 83%; Central Transp., 34%; Nesquehoning Valley, 53%; Philadelphia City 6s, 1895, 120½; do. do. 6s, 1904, 134; Philadelphia and Reading R. R. scrip, 98; do. consol. gold 6s, 114; Philadelphia, Wilmington and Baltimore 4s, 94; Philadelphia, Germantown and Norristown, 109%; Philadelphia and Reading Coal and Iron debent., 7s, 66%; Pennsylvania and New York Canal 7s, 1906, 126½; Philadelphia and Trenton, 192; St. Paul and Duluth, 38; do. pref., 94%; Steubenville and Indiana 6s, 103½; Texas and Pacific, 4%; do. consol. 6s, 96; Warren and Franklin 7s, 112½; West

Chester and Philadelphia 7s, 117. The latest quotations are: City 6s, 108@120; do. free of tax, 127@124; do. new, 106@114; Pennsylvania State 5s, new loan, 117½@118%; do. 4s, old, 112@114; do. 4s, new, 116½@117; Philadelphia and Reading Railroad, 28½@28½; do. consol. mort. 7s, reg., 125@127; do. genl. mort. 6s, coupon, 94@95; do. 7s, 1893, 118@119; do. 7s, new conv., 70@71; United New Jersey R. R. and Canal, 189½@190½; Buffalo, Pittsburgh and Western, 19½@19½; Pittsburgh, Titusville and Buffalo 7s, 95@96; Camden and Amboy mort. 6s, 1889, 111½@112½; Pennsylvania R. R., 60@60½; do. general mort. 6s, coupon, 124@126; do. reg., 125@126; do. consol. mort. 6s, reg., 120@122; Little Schuylkill R. R., 58@59; Schuylkill Navigation pref., 12@13; do. 6s, 1882, 88@90; Elmira and Williamsport pref., 58@60; do. 5s, —@100; Lehigh Coal and Navigation, 42@43; do. 6s, 1884, 102@104; do. R. R. loan, 114@115; do. Gold Loan, 111@113; do. consol. 7s, reg., 117@118; Northern Pacific, 43@44; do. pref., 91½@91½; North Pennsylvania, 64@65; do. 6s, 106@106½; do. 7s, 119@—; do. 7s, General mort. reg., 124@—; Philadelphia and Erie, 21½@21½; do. 7s, 114@115; do. 5s, 102@103; Minehill, 62½@63; Catawissa, 20½@—; do. pref., 54@54; do. new pref., 53@54; do. 7s, 1900, 118@120; Lehigh Valley, 65@65%; do. 6s, coupon, 120@123; do. reg., 121@123; do. 7s, 132@133; do. consol. mort., 122@122½; Fifth and Sixth streets (horse), 17½@190; Second and Third, 115@120; Thirteenth and Fifteenth, 78½@90%; Spruce and Pine, 42@44; Green and Coates, 80@92; Chestnut and Walnut, 90@93; Germantown, 70@74; Union, 110@111; West Philadelphia, 120@—; People's, 9½@10½; Continental, 103@105.

**Baltimore.**—Atlantic Coal, 1-20; Atlanta and Charlotte 1st, 107; Baltimore City 6s, 1890, 115%; do. 5s, 1916, 121; do. 5s, 1894, 113½; Baltimore and Ohio 2d pref., 123%; Charlotte, Columbia and Augusta, 38; do. 1st, 108; do. 2d, 99%; Citizens Passenger R. R., 17; Cincinnati 7-30, J. & J., 131½; Marietta and Cincinnati 2d, Trust Co. certif., 100%; do. 3d do., 56%; Maryland Defense 6s, 103%; do. Hospital 6s, 104½; Northern Central 5s, Series A, 98%; Ohio and Mississippi, Springfield div. 1st, 113%; Virginia Midland ad mort., 108; do. 5th mort., 94; Virginia 10-40 coupons, 67; do. Peeler, 44%; Wilmington, Columbia and Augusta, 108½. The latest quotations are: Atlanta and Charlotte 1st, 107@107½; Baltimore and Ohio, 192@—; Baltimore City 6s, 1890, 114½@115; do. 5s, 1916, 121@121½; do. 4s, 1902, —@113; Columbia and Greenville 1st, 100@102; Central Ohio 6s, —@108; Canton Co. 6s, 104@—; George's Creek Coal, 92½@95; Marietta and Cincinnati 1st, 127½@128½; do. 2d, 101@101½; do. 3d, 56½@57; Northern Central, 56%@—; do. 6s, Series A, 98@99½; do. B, —@98; Norfolk Water 8s, —@131½; Ohio and Mississippi, Springfield div. 1st, 113½@114½; Richmond and Danville bonds 1915, 94%@95%; Virginia Midland 5th mort., 93@93½; do. inc., 6s, 50@57; Virginia consols, 59½@59½; do. 10-40s, 43½@—; do. 3s, 48@50.

### The Coal Trade.

THE leading coal-carrying companies make the following reports of their tonnage for the week ending Nov. 4, and for the year to the same date, compared with their respective amounts carried to the same time last year:

	Week.	1882.	1883.
Phil. and Reading R. R. ....	190,720	7,670,199	7,378,910
Schuylkill Canal .....	17,051	449,498	520,539
Lehigh Valley .....	132,482	5,751,098	5,293,434
Delaware, Lackawanna and Western .....	104,858	3,848,834	3,573,928
Shamokin .....	21,113	662,668	910,785
Central R. R. of New Jersey .....	44,694	3,710,219	3,695,588
United R. R. of New Jersey .....	37,254	1,443,189	1,314,865
Pennsylvania Coal .....	16,779	1,186,334	1,163,578
Delaware and Hudson Canal .....	84,523	2,983,072	3,013,779
Huntingdon and Broad Top Mountain .....	9,741	394,068	464,400
Mountain .....	29,653	1,334,042	1,399,714
Clearyfield, Pa. ....	49,128	2,390,229	2,018,331

The total tonnage of anthracite coal from all the regions for the week ending Nov. 4, as reported by the several carrying companies, amounted to 639,950 tons, against 601,569 tons in the corresponding week last year, an increase of 38,381 tons. The total amount of anthracite mined for the year is 24,238,088 tons, against 23,357,389 tons for the same period last year, an increase of 880,699 tons. The quantity of bituminous coal sent to market for the week amounted to 61,188 tons, against 65,060 tons in the corresponding week last year, a decrease of 3,872 tons. The total amount of bituminous mined for the year is 3,638,253 tons, against 4,092,216 tons for the

corresponding period last year, a decrease of 453,963 tons. The total tonnage of all kinds of coal for the week is 701,138 tons, against 666,629 tons in corresponding week last year, an increase of 34,500 tons, and the total tonnage for the coal year is 27,86,341 tons, against 27,449,605 tons to same date last year, an increase of 426,736 tons. The quantity of coal and coke carried over the Pennsylvania Railroad for the week ending Nov. 4 was 215,515 tons, of which 158,470 tons were coal and 57,045 tons coke. The total tonnage for the year thus far has been 9,277,572 tons, of which 6,894,467 tons were coal and 2,383,105 tons coke. These figures embrace all the coal and coke carried over the road, east and west. The shipments of bituminous coal from the mines of the Cumberland coal region for the week ended Nov. 4 were 50,556 tons, and for the year to that date 1,111,690 tons, a decrease of 698,389 tons as compared with the corresponding period of last year. The shipments were: To the Baltimore and Ohio Railroad—For the week, 28,663 tons; year, 767,244 tons; decrease as compared with 1881, 387,850 tons. Chesapeake and Ohio Canal—Week, 18,039 tons; year, 199,578 tons; decrease as compared with 1881, 413,345 tons. Pennsylvania Railroad—Week, 3,287 tons, year, 137,736 tons, decrease from last year, 239,198 tons. The Reading Railroad shipment for last week, ending November 11, was about 198,000 tons, of which 46,500 tons were sent to and 44,000 tons shipped from Port Richmond, and 19,000 tons sent to and 18,500 tons shipped from Elizabethport.—*Philadelphia Ledger*, Nov. 13

A FLORIDA gentleman urges the value of some of the native woods of that State, for use in places where walnut and mahogany are now used. The irregular portions of yellow pine, when the convolution causes a twisting in and out of the fiber, is claimed to be one of the most beautiful veneering woods. The color is bright yellow and charming from its originality, and contrasts well with walnut and the darker woods. The magnolia, from its inherent beauty and fineness of grain, makes a fine finishing wood. It is also well adapted for use in imitating ebony. It is said to grow in almost inexhaustible quantities in the hummocks of Florida and therefore is not very costly to produce. The red or sweet baywood is said to be valuable for ornamental purposes, and grows in great quantities in the State. It is substantially the same as mahogany, and can be used for the same purposes. The gentleman alluded to can see no good reason why it should not be called American mahogany.

THE proposition once advanced, to secure the safety of railway travel by placing a director upon the front of the locomotive, might not be worth much after all. An official train, containing the principal officers of a line in Maine, ran into a passenger train, injuring, in some cases seriously, the occupants of the latter, and giving the railway dignitaries themselves a good shaking up. Indeed, the shock seems to have stirred up all the sense of justice of the corporation, for there was a settlement of damages with the injured persons on the spot. Had the company been represented in this accident only by a director upon the cow-catcher, there would have been no one on the spot after the crash in a position to treat with the bruised and broken patrons in the matter of compensation for injuries.—*Montreal Witness*.

THE six elegant dining cars now running on the Chicago, Milwaukee and St. Paul Railway, which were so fully described on page 883 of our last issue, were built by the Harlan & Hollingsworth Company, of Wilmington, Del.

**FOR SALE.**

Locomotives—Four Second-hand Narrow-Gauge Engines in good order.  
 One Second-hand "Tank" Narrow-Gauge Engine, 10 tons. Several Second-hand Standard-Gauge Locomotives in good order, immediate delivery.  
 One new 3ft. Gauge Passenger Engine, 22 tons, prompt delivery.  
 Six new 4ft. 8½ Gauge Locomotives, cylinders 17x24, weight 35 tons. October and November delivery.  
 Two new 3ft. Gauge Locomotives, Cylinders 12x18, weight 20 tons. October and November delivery.  
 Cars—Passenger and Freight Cars of all descriptions for early delivery.  
 Rails—16lb., 20lb. 30lb. 35lb. and 56lb. Rails.  
 Car Wheels and Axles.  
 Narrow-Gauge Rolling-stock a specialty.

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Manufacturers of Fine

**RAILWAY VARNISHES,**  
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Fine Brushes adapted for Railroad use. All kinds of Artists' Materials. Colors for ready use, and all specialties for Railroad and Carriage purposes.

Railroad companies will save themselves great trouble in painting by allowing F. W. Devoe & Co. to prepare their Passenger and Freight Car Colors. This will insure Durability, Uniformity and Economy. F. W. Devoe & Co., manufacture from the crude materials, which are the component parts of any shade, and they understand better their chemical relationship, when in combination, than can be possible to those who simply buy their dry materials and then grind them.

SEND FOR SAMPLE CARD OF TINTS.

**Cor. of Fulton and William Sts.**  
 NEW YORK.

**Continuous**  
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**FREIGHT BRAKES.**

Requiring no other Connection  
 between Cars than the ordinary Coupling-Link  
 and Pin.

SIMPLE, DURABLE, AND EFFICIENT.

Brakes can be applied to every Car in the longest train, from the engine or caboose, or from any car in the train. It can be readily attached to any car, and adapted to ordinary brake beams, shoes, etc. There is no possibility of damaging wheels by "sliding."

PATENTED MAY 23, 1882.

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 Surgeon C. R. I. and P. Ry.  
 MARSHFIELD, Iowa Co., Iowa.

NO OTHER LINE IS SUPERIOR TO THE

**FITCHBURG RAILROAD**  
**HOOSAC TUNNEL ROUTE**  
**WEST.****8.30 A. M. DAY EXPRESS.**  
 Wagner Palace Drawing-Room Cars Attached.

Running through to Syracuse, N.Y., where connection is made with through sleeping-cars for Cincinnati, Cleveland, Toledo, DETROIT AND CHICAGO.

**3.00 P. M. CINCINNATI EXPRESS.**

Pullman Sleeping Car attached, running through to Cincinnati without change. (Only Line running Pullman Cars from Boston.) This car runs via Erie Railway and N.Y., P. & O. R.R., making direct connection for Louisville, St. Louis, Kansas City, New Orleans, and all points in Texas and New Mexico.

**3.00 P. M. ST. LOUIS EXPRESS.**

THE ONLY LINE which runs a THROUGH SLEEPING-CAR from

**BOSTON TO ST. LOUIS WITHOUT CHANGE!**  
 ARRIVING AT 8.00 A.M. SECOND MORNING.

Through sleeping car for Buffalo, Toledo, Fort Wayne, Logansport, Lafayette, Danville, Tolono, Decatur and St. Louis, making direct connection with through Express Trains for Kansas, Colorado, Texas, and all points in the

**SOUTHWEST.****6.00 P. M. PACIFIC EXPRESS.**

The only line running a through sleeping-car via Niagara Falls, Canada Southern Railway and Detroit without change, arriving at Chicago at 8.00 A.M. second morning, making sure connections with through Express Trains for Iowa, Nebraska, Kansas, Colorado, the Pacific Coast, Wisconsin, Minnesota and all points in the

**WEST AND NORTHWEST.****THE ABOVE TRAINS RUN DAILY, SUNDAYS EXCEPTED.**

This Great Short Line passes through the most celebrated scenery in the country, including the famous HOOSAC TUNNEL, four and three-quarters miles long, being the longest Tunnel in America, and the third longest in the world.

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JOHN ADAMS, General Superintendent. F. O. HEALD, Acting Gen'l Passenger and Ticket Agent.

In effect October 23d, 1882, and subject to changes.

## RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus(*) are leased roads.	Stock out-standing.	Last Divid'd Periods.	Divid'd Payable.	Marked thus(*) are leased roads.	Stock out-standing.	Last Divid'd Periods.	Divid'd Payable.	Marked thus(*) are leased roads.	Stock out-standing.	Last Divid'd Periods.	Divid'd Payable.
Albany and Susq*...100	2,500,000	semi-an	July '82 2	Little Miami.....50	4,637,300	q'arterly	Sept. '82 2	Ware River*.....100	750,000	semi-an	July '82 3 1/2
Ashuelot.....100	250,000	q'arterly	Oct. '82 3 1/2	Little Rock & Ft. S.....100	4,006,135	.....	July '81 108	Warren (N. J.).....100	1,800,000	semi-an	Apl. '82 3 1/2
Atch., Top. and S. Ferro	54,000,000	q'arterly	Nov. '82 1 1/2	Little Schuylkill*.....50	2,646,100	semi-an	July '82 3 1/2	Warwick Valley.....100	340,000	semi-an	July '82 2 1/2
Atlanta and W. Point	1,232,200	semi-an	Jan. '82 6	Long Island.....50	10,000,000	q'arterly	Nov. '82 1	Westchester & Phil. pref*100	821,300	semi-an	July '82 2
Atlantic and St. Law*100	5,840,000	semi-an	Mar. '82 3	Louisville & Nashv.....100	19,130,913	semi-an	Feb. '82 3	West Jersey.....100	1,359,750	semi-an	Sept. '82 3
Augusta and Savan'h*100	1,082,900	semi-an	June '81 3 1/2	Lowell & Andover.....100	500,000	semi-an	Oct. '82 2 1/2	Wilmington & Wd'n*100	1,456,200	semi-an	July '82 3
Avon, Genesee & Mt'M*100	225,000	semi-an	July '82 3	Lykens Valley.....100	600,000	q'arterly	Oct. '81 2 1/2	Wil. Col., Aug.....100	960,000	semi-an	July '82 3
Baltimore and Ohio*100	14,792,560	semi-an	Nov. '82 5	Manchester & Law.....100	1,000,000	semi-an	Nov. '82 5	Winchester & Peterb*100	180,000	semi-an	July '82 3
" " " pref.100	5,000,000	semi-an	July '82 3	Manhattan.....100	13,000,000	.....	.....	Winchester & Strasb.*100	24,700	semi-an	July '82 3
Washington Br.....100	1,650,000	semi-an	Nov. '82 5	" " 1st pref.100	6,500,000	q'arterly	Oct. '82 1 1/2	Worcester & Nashua. 75	1,789,800	semi-an	July '82 1 1/2
Berkshire*.....100	600,000	q'arterly	Apl. '82 1 1/2	" " 2d pref.100	6,500,000	q'arterly	Oct. '82 1 1/2	HORSE-POWER R. R.			
Boston and Albany*100	20,000,000	q'arterly	Sept. '82 2	Marietta & Cincinnati.....100	1,386,350	.....	.....	Albany City.....100	200,000	annual	.... '80 5 1/2
Bos. & N. Y. Airline pf.100	2,795,227	q'arterly	June '82 1	" " 1st pref.50	8,105,600	semi-an	Sep. '86 3 1/2	Baltimore City.....25	1,000,000	semi-an	Oct. '82 2
Bos. Cl. & N. B. pref.100	1,750,100	semi-an	Oct. '82 3 1/2	" " 2d pref.50	4,440,000	semi-an	Sep. '86 3 1/2	Balt., Cat. & El. Mills.....100	.....	semi-an	July '82 2
Bos. Cone. & Mont. pf*100	800,000	semi-an	Nov. '82 3	Marq. Hout. & Ont. pf..100	2,259,026	.....	.....	Bleeker St. & Ful. F'y.100	900,000	semi-an	July '82 3
Boston and Lowell.....500	3,940,000	semi-an	July '82 2	Massawippi*.....100	400,000	semi-an	Aug. '82 3	Boston & Chelsea pref.50	110,000	semi-an	Oct. '82 3
Boston and Maine*100	6,921,274	semi-an	Nov. '82 4	Metropolitan.....100	6,500,000	q'arterly	Oct. '82 1 1/2	Broadway (Brooklyn)100	250,000	q'arterly	Oct. '82 6
Boston & Providence*100	4,000,000	semi-an	Nov. '82 4	Michigan Central.....100	18,738,204	q'arterly	Aug. '81 2	B'way & 7th Av. (N.Y.)100	2,100,000	q'arterly	Oct. '82 2
Attleborough Br.....100	131,700	semi-an	July '82 3 1/2	Middlesex Central.....100	280,000	semi-an	Aug. '82 3	B'klyn & Hunter's Pt.100	400,000	semi-an	Oct. '82 6
Bos. Rivers B & Lynn*100	419,400	semi-an	July '82 3 1/2	Mill Creek & Minehill*50	333,000	semi-an	July '82 5	Brooklyn City.....100	2,000,000	q'arterly	Aug. '82 3 1/2
Buffalo, N. Y. & Erie*100	950,000	semi-an	June '82 3	M. Hill & Schuyl.Hav*50	4,022,500	semi-an	July '82 3 1/2	Bushwick (Brooklyn)100	300,000	semi-an	Oct. '82 6
Camden & Atlantic*50	377,400	q'arterly	Nov. '82 3	Mobile & Montgomery*100	3,022,517	semi-an	Feb. '82 2 1/2	Cambridge.....100	98,000	q'arterly	Oct. '82 4 1/2
" " " pref.50	580,650	q'arterly	Nov. '82 4	Morris and Essex.....50	15,000,000	semi-an	July '82 3 1/2	Can. Park. N. & E. Riv.100	1,800,000	q'arterly	Oct. '82 6
Camden & Burl. Co.*100	381,925	semi-an	July '82 3	Mt Carbon & P't Carbon*50	282,350	semi-an	July '82 6	Christoph'r & TenthSt100	650,000	semi-an	Aug. '82 2 1/2
Canada Southern*100	15,000,000	.....	.....	Nashua and Lowell.....100	800,000	semi-an	Nov. '82 4	Citizens (Phil.).....50	102,500	q'arterly	Jan. '82 2 1/2
Catavissa*.....50	1,159,200	annual	Oct. '82 2 1/2	Nashua & Rochester.....100	1,305,800	semi-an	Oct. '82 1 1/2	Coney Island & Bklyn*100	500,000	semi-an	Oct. '80 5
" " " new pref.50	2,200,000	semi-an	Nov. '82 3 1/2	Nashv. & Decatur.....100	1,827,000	semi-an	June '81 3	Continental (Phil.).....50	580,000	semi-an	July '82 6
Cayuga and Susq*.....50	1,000,000	semi-an	Nov. '82 3 1/2	Nashv., Chat. & St.Louis 25	6,670,325	semi-an	Apr. '82 1 1/2	D. Dock, E.B'way & Batco.100	1,200,000	q'arterly	Aug. '82 4
Cedar Rapids & Mo.*100	6,850,400	q'arterly	Nov. '82 1 1/2	Naugatuck.....100	2,000,000	semi-an	July '82 5	Eighth Av. (N. Y.)100	1,000,000	q'arterly	Oct. '82 3
" " " pref.100	769,600	semi-an	Aug. '82 3 1/2	Naugatuck & New Haven*50	1,300,000	semi-an	Sept. '82 3	42d St. & G. St. Ferry100	747,000	semi-an	May '82 6
Central of Georgia*100	7,500,000	semi-an	June '82 2 1/2	New London North*n*100	600,000	q'arterly	Oct. '81	Frankf. & Southw. (Ph.)100	600,000	q'arterly	Oct. '82 6
Central of New Jersey*100	18,563,200	q'arterly	July '82 2 1/2	New London North*n*100	1,500,000	q'arterly	July '82 1 1/2	Germannst. (Ph.)100	572,800	q'arterly	July '71 3
Central Ohio*.....50	2,437,950	semi-an	July '82 3	N. Y. Can. & Harlem.....100	7,950,000	q'arterly	July '82 4	Girard College (Ph.)100	500,000	semi-an	July '82 2 1/2
" " " pref.50	411,550	semi-an	July '82 3	N. Y. & Harlem.....100	1,500,000	q'arterly	July '82 4	Grand St. & Newton100	170,091	semi-an	July '81 3
Central Pacific*100	59,274,570	semi-an	Aug. '82 3	N. Y. & Erie & West.....100	77,083,900	.....	.....	Green & Coates St. (Ph.)100	150,000	q'arterly	Oct. '82 3
Chemung*.....100	380,000	q'arterly	July '82 1 1/2	N. Y., Lake Erie & West.....100	8,156,825	.....	.....	Heston, Mantua & F'm100	299,381	semi-an	Jan. '75 4
Chester preferred*100	1,200,000	semi-an	July '82 1 1/2	N. Y., N. H. & Hart.....100	15,500,000	semi-an	Jan. '82 6	Hightland.....100	600,000	semi-an	July '82 4
Chicago and Alton.....100	11,181,741	semi-an	Sept. '82 4	N. Y., Prov. & Boston100	3,000,000	q'arterly	Nov. '82 2	Lomb. & SouthSts (Ph)100	195,000	semi-an	Oct. '75 4
Chi., Burl. & Quincy*100	2,245,400	semi-an	Sept. '82 4	Niag. Bridg. & Canand*100	1,000,000	semi-an	July '81 3	Lynn and Boston.....100	200,000	semi-an	Nov. '82 4
Chi., Iowa & Nebraska*100	55,337,455	q'arterly	Sept. '82 2	North Carolina*.....100	3,000,000	semi-an	Sep. '81 3	Malden and Melrose100	165,000	.....	.....
Chi., Mil. & St. Paul*100	3,916,200	semi-an	July '82 4	" " " pref.100	86,000	semi-an	Sep. '81 3	Metropolitan (Bost.)100	1,500,000	semi-an	July '82 4
" " " pref.100	20,404,261	semi-an	Oct. '82 3 1/2	N. Eastern (S.C.) pref*100	86,000	semi-an	May '84 1	Middlesex (Boston)100	650,000	semi-an	Nov. '82 3 1/2
Chi. & N. Western*100	14,401,483	semi-an	Oct. '82 3 1/2	Norfolk & Western pref*100	15,000,000	q'arterly	Sept. '82 1	N. Y., Bay Ridge & Jamico100	150,000	.....	Oct. '82 7
" " " pref.100	21,525,335	semi-an	June '82 3 1/2	North Pennsylvania.....50	4,527,150	q'arterly	Nov. '82 1 1/2	Ninth Av. (N. Y.)100	707,320	.....	.....
Chi., R. I. & Pacific*100	41,600,000	q'arterly	Nov. '82 1 1/2	Northern Central.....50	6,142,000	semi-an	July '82 3	Orange & Newark.....100	282,555	.....	July '82 2
Chi. and West Mich*100	6,151,000	semi-an	Feb. '82 2 1/2	Northern N. Hampshire.....50	3,068,400	semi-an	June '82 3	People's (Phila.) pref.25	124,744	.....	July '82 4
Chi., St.P., M.&O. pref.100	10,390,000	q'arterly	Oct. '82 1 1/2	Northern N. Jersey*100	1,000,000	semi-an	July '82 2 1/2	Philadelphia City.....50	475,000	semi-an	July '82 3 1/2
C. Ind., St. L. & Chi.100	6,000,000	q'arterly	July '82 1 1/2	Norwich & Worcester*100	2,604,400	semi-an	July '82 5	Phila. and Darby.....20	200,000	semi-an	July '82 6
Cin. Sand. & Clevy*100	429,037	semi-an	Nov. '82 3	Ohio and Miss. pref.100	4,030,000	semi-an	Mar. '75 3 1/2	Phila. & Grey's Ferry100	308,000	semi-an	Jan. '82 6
Clev. and Mahoning*100	3,759,200	semi-an	Nov. '81 3 1/2	Old Colony.....100	7,333,800	semi-an	July '82 3	Ridge Avenue (Ph.)100	420,000	semi-an	Oct. '81 11
Clev. and Pittsburgh*100	11,244,336	q'arterly	Dec. '81 2 1/2	Oregon R'way & Nav.....100	6,000,000	q'arterly	Nov. '82 2	Second Avenue (N. Y.)100	1,199,500	semi-an	July '82 11
Columbus & Xenia*100	1,786,300	q'arterly	Sept. '82 2	Oswego & Syracuse.....100	1,320,400	semi-an	Ang. '82 4 1/2	Second & Third St. (Ph.)100	771,076	q'arterly	Jan. '82 4 1/2
Colum. & Hocking Val*100	2,000,000	semi-an	Aug. '81 208	Panama.....100	7,000,000	.....	July '82 6	17th & 19th sts (Ph.)100	250,000	semi-an	July '82 3
Concord*.....100	1,500,000	semi-an	Nov. '82 5	Paterson & Hudson*100	630,000	semi-an	July '82 4	Sixth Avenue (N. Y.)100	750,000	semi-an	May '82 5
Concord and Ports*100	350,000	semi-an	July '82 3 1/2	Paterno & Ramapo*100	248,000	semi-an	July '82 4	Somerville (Boston)100	113,000	semi-an	Nov. '82 3
Conn. & Passump.Riv*100	2,244,400	semi-an	Aug. '82 3	Pember & Hightop*n*100	342,150	semi-an	Jan. '82 3	South Boston.....100	600,000	semi-an	July '82 4
Connecticut River*100	2,100,000	semi-an	July '82 4	Pennsylvania.....100	83,786,570	semi-an	Nov. '82 4 1/2	Third Avenue, N. Y.100	2,000,000	q'arterly	Aug. '82 5
Cumberland Valley*100	2,100,000	semi-an	July '82 4	Pennsylvania Co.....100	20,000,000	semi-an	June '82 2 1/2	13th & 16th sts, Ph.100	334,520	q'arterly	Jan. '82 4
" 1st pref 50	241,900	semi-an	Ap. '82 4	Peerless & Bureau Val*100	1,200,000	semi-an	Feb. '82 4	23d street, N. Y.100	600,000	semi-an	Aug. '82 4
" 2d pref 50	243,000	semi-an	Oct. '82 2 1/2	Philadelphia & Erie*100	7,013,700	semi-an	Jan. '82 3	Union, Boston.....100	374,300	semi-an	Jan. '82 4
Danbury & Norwalk*100	600,000	.....	Oct. '82 2 1/2	" " " pdf.100	2,400,000	semi-an	Jan. '75 4	Union, Phila.....50	1,005,000	semi-an	Jan. '82 7
Dayton and Mich.*100	2,402,573	semi-an	Ap. '82 1 1/2	Phil. Ger. & Norrist*n*100	2,231,900	q'arterly	Sept. '82 3	West Philadelphia.....50	750,000	semi-an	July '77 10
" " " pref.50	1,211,250	q'arterly	July '82 3	Phil. and Reading.....100	3,272,375	q'arterly	Jan. '82 2 1/2	CANALS.			
Delaware*.....25	1,468,940	semi-an	July '82 3	" " " pref.50	1,551,800	q'arterly	July '82 3	Chesapeake and Dela.....50	2,078,038	semi-an	June '75 2
Del. & Bound Brook*100	1,652,000	q'arterly	Nov. '82 1 1/2	Phil., Wil. & Balt. 50	1,250,700	semi-an	July '82 4	Delaware Division.....50	1,633,350	semi-an	Aug. '82 \$1
Del., Lack. & Western*100	26,200,000	q'arterly	Oct. '82 2	Pittsb., Ft. W. & Chl.*100	11,585,750	semi-an	July '82 4	Delaware and Hudson100	20,000,000	q'arterly	Sept. '82 1 1/2
Denver & Rio Grande*100	29,160,000	q'arterly	Jan. '82 1 1/2	" " " Spec Imp.100	6,770,000	q'arterly	Oct. '82 1 1/2	Delaware & Raritan*100	5,847,400	q'arterly	Oct. '82 2 1/2
Den., South P. & Pac.*100	3,500,000	.....	Aug. '80 4	Pittsfield & Adams.....100	1,500,000	semi-an	July '82 3	Lehigh Coal and Nav. 50	11,204,250	semi-an	June '82 2
Detroit, Lans. & Nor*100	1,825,300	semi-an	Aug. '80								

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E. S. BOWEN, General Superintendent.

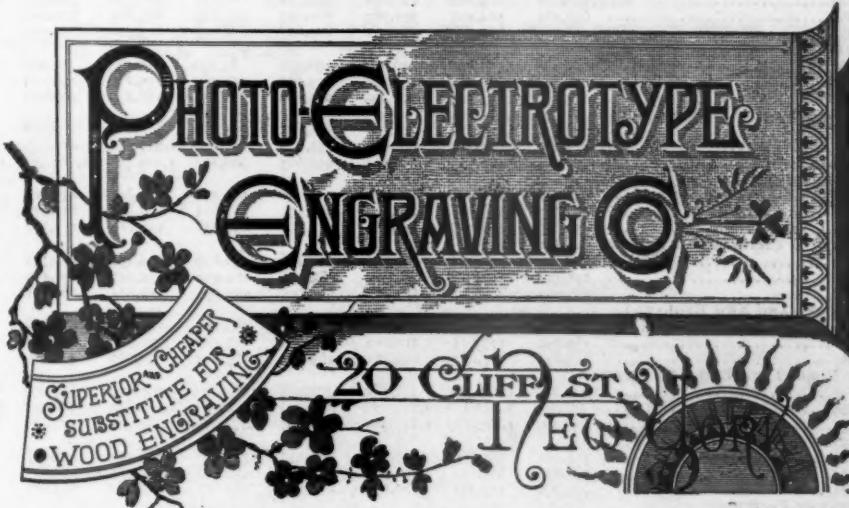
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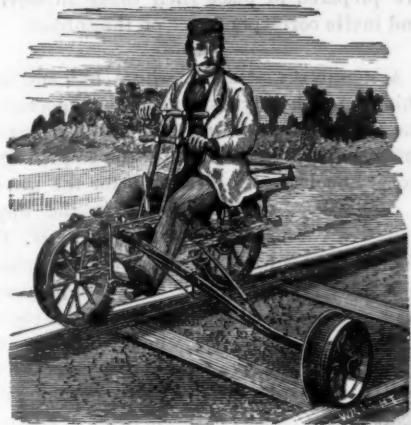
H. F. WORRALL, Treasurer, 8 Exchange Place, Boston, Mass.

## RAILROAD EARNINGS. MONTHLY.

BURL., CEDAR RAP. & NORTHERN:	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1880.	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881.	167,750	124,510	148,551	184,680	165,630	205,912	174,351	209,112	221,801	221,748	203,880	232,812	2,259,037
1882.	253,623	225,631	224,107	178,304	199,278	211,257	198,276	224,927	261,439	300,153	.....	.....	.....
CENTRAL PACIFIC:													
1880.	1,200,615	1,070,487	1,373,438	1,356,716	1,778,488	1,724,990	1,840,067	1,973,438	1,994,997	1,120,229	2,109,466	1,905,221	20,508,113
1881.	1,602,907	1,454,218	1,709,638	1,872,370	2,091,411	2,159,389	1,899,346	2,088,519	2,185,303	2,507,857	2,297,971	2,225,179	24,094,101
1882.	1,839,469	1,720,675	1,969,737	2,054,687	2,342,268	2,229,105	2,020,000	2,277,000	2,474,000	2,409,000	.....	.....	.....
CHESAPEAKE AND OHIO:													
1880.	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	311,820	240,795	218,009	2,674,308
1881.	162,540	184,389	228,479	227,343	252,235	241,135	225,096	262,858	247,144	263,306	235,585	203,562	2,702,762
1882.	210,455	209,708	308,981	207,454	255,939	260,753	306,831	371,175	332,219	347,882	.....	.....	.....
CHICAGO AND ALTON:													
1880.	534,054	497,013	636,473	549,661	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,108
1881.	487,890	461,641	529,915	558,100	548,556	635,860	676,205	769,751	771,844	680,133	635,307	7,553,988	.....
1882.	579,447	530,480	584,483	516,178	553,412	613,886	671,537	800,624	881,109	812,032	.....	.....	.....
CHICAGO AND NORTHWESTERN:													
1880.	1,154,632	1,131,683	1,361,785	1,294,573	1,875,608	1,671,177	1,609,686	1,767,938	2,020,245	2,105,217	1,855,622	1,477,902	19,416,007
1881.	1,240,664	903,204	1,178,795	1,474,612	1,879,006	2,306,440	1,983,032	2,315,164	2,292,676	2,341,098	2,019,038	1,855,477	21,849,209
1882.	1,644,935	1,474,176	1,672,931	1,668,741	2,110,947	2,022,700	2,055,736	2,099,755	2,497,053	2,532,100	.....	.....	.....
CHICAGO, BURLINGTON AND QUINCY:													
1880.	1,432,740	1,411,870	1,739,518	1,489,894	1,009,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881.	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,803	1,888,358	2,173,945	2,262,981	2,031,001	1,816,133	1,905,490	21,324,150
1882.	1,658,834	1,457,300	1,566,217	1,530,838	1,505,261	1,437,174	1,625,000	2,086,858	.....	.....	.....	.....	.....
CHICAGO, MILWAUKEE AND ST. PAUL:													
1880.	704,208	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,397,308	13,086,119
1881.	990,847	682,717	916,989	1,259,946	1,535,491	1,729,811	1,568,706	1,678,371	1,644,677	1,591,052	1,569,000	1,855,000	17,025,462
1882.	1,435,000	1,377,000	1,961,000	1,518,000	1,629,000	1,620,000	1,465,000	1,545,000	1,950,000	2,25,000	.....	.....	.....
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA:													
1880.	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881.	257,786	158,594	261,648	261,211	350,124	404,569	383,209	385,586	373,370	379,029	380,733	397,950	3,981,296
1882.	307,408	315,100	405,779	356,558	406,420	363,109	331,480	394,555	482,997	546,671	.....	.....	.....
CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO:													
1880.	135,609	172,542	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881.	182,523	171,511	191,005	183,710	191,060	192,299	177,161	229,558	226,653	212,606	194,805	192,623	2,296,916
1882.	200,042	186,879	208,066	204,269	199,110	195,948	209,564	259,379	.....	.....	.....	.....	.....
DENVER AND RIO GRANDE:													
1880.	124,759	126,922	160,883	164,882	193,925	295,455	373,124	400,133	406,583	473,318	408,562	349,196	3,478,007
1881.	307,476	317,681	308,493	433,111	514,767	584,230	548,284	606,193	589,287	638,432	566,819	643,437	6,206,812
1882.	491,914	432,987	535,055	559,917	614,298	537,462	495,797	574,040	595,306	630,598	.....	.....	.....
HANNIBAL AND ST. JOSEPH:													
1880.	176,079	166,605	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,366
1881.	154,401	122,874	176,356	190,812	172,950	190,740	201,899	210,240	215,103	231,913	201,782	180,376	2,230,961
1882.	138,284	154,717	168,798	148,913	154,917	155,030	184,347	258,628	239,190	238,442	.....	.....	.....
ILLINOIS CENTRAL:													
1880.	595,212	613,806	613,008	535,738	665,120	681,736	724,095	732,755	806,836	880,811	783,120	673,182	8,304,812
1881.	631,281	524,499	557,789	602,493	673,259	803,887	720,004	868,407	828,847	875,238	737,218	763,475	8,586,397
1882.	728,173	689,387	695,371	674,679	674,749	663,746	752,351	813,000	828,548	865,325	.....	.....	.....
INDIANA, BLOOMINGTON AND WESTERN:													
1880.	80,498	89,600	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	95,621	104,619	1,233,079
1881.	90,283	83,361	120,085	203,677	200,664	199,846	201,195	272,174	247,322	225,678	160,826	156,697	.....
1882.	195,824	175,755	206,235	205,934	182,554	186,133	206,072	278,814	273,100	269,046	.....	.....	.....
LOUISVILLE AND NASHVILLE:													
1880.	674,455	575,035	612,593	563,883	655,014	976,229	772,538	827,089	931,911	1,000,327	953,087	949,185	9,491,346
1881.	812,118	805,124	947,059	855,704	828,726	1,287,885	817,135	876,192	951,566	1,002,950	1,065,223	1,153,779	11,344,361
1882.	904,527	960,315	1,008,834	953,603	958,130	1,215,490	1,063,765	1,043,912	1,121,215	.....	.....	.....	.....
MOBILE AND OHIO:													
1880.	250,116	204,095	168,308	140,091	129,248	121,855	131,681	140,593	184,247	264,714	251,268	287,372	2,273,622
1881.	224,347	216,768	230,916	163,551	145,803	136,517	135,549	160,789	210,263	250,924	262,812	2,403,224	.....
1882.	159,670	138,590	148,466	141,957	134,378	130,184	130,398	140,443	160,031	205,201	.....	.....	.....
NASHVILLE, CHATTANOOGA AND ST. LOUIS:													
1880.	205,634	191,154	169,457	155,466	158,839	144,130	151,594	169,326	167,473	178,266	182,087	175,966	2,049,484
1881.	178,143	190,866	207,710	183,525	104,430	154,549	150,430	168,317	179,079	172,121	152,059	173,127	2,075,250
1882.	156,994	159,961	161,005	154,153	135,556	119,074	160,991	168,304	168,999	.....	.....	.....	.....
NEW YORK AND NEW ENGLAND:													
1880.	164,233	149,907	183,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198,108	2,396,302
1881.	189,749	173,014	212,019	310,913	217,185	231,518	240,621	280,524	299,573	261,200	242,412	237,729	2,809,355
1882.	213,840	217,261	205,223	263,544	283,244	290,060	310,920	353,726	338,490	310,145	.....	.....	.....
NEW YORK, LAKE ERIE AND WESTERN:													
1879.	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880.	1,296,381	1,252,218	1,044,958	1,043,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,910	1,799,338	1,726,788	19,149,361
1881.													

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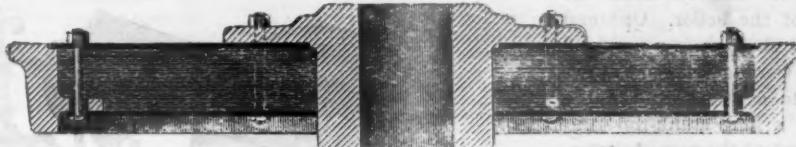
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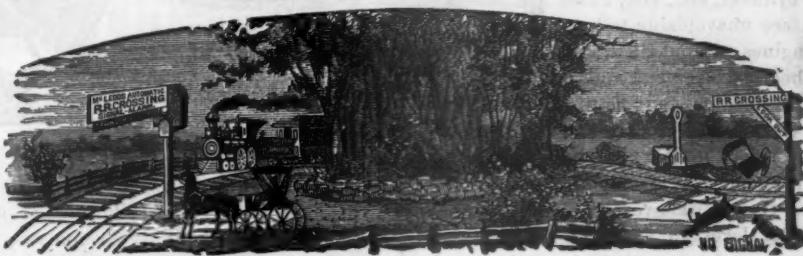
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New York Office with Col. Thos. R. Sharp, 115 Broadway.

**Wilson's Attachment for Leveling Engine Boilers.**

THE accompanying cut is a representation of an invention relating to threshing or traction engines. It was patented September 19, 1882. The device consists of keeping boilers of moveable engines always in a level position, while going on uneven roads, by the simple device hereinafter fully described. To the center of the front axle, is pivoted a horizontal iron bar or lever, running back and below the boiler. A short standard or post is fastened to the under side of the boiler (the same as on ordinary engines). A short distance back of the front wheels, whose lower point rests in a socket or saddle, on the horizontal bar or lever and is there loosely attached so as to allow an up and down play to the lever. To the rear end of the lever is fastened a chain by the center, while the two ends of the chain are fastened to a shaft running under and across the bottom of the boiler. This shaft is held in position by boxes or hangers from the sides of the boiler. One end of this shaft being provided with a worm-gear wheel meshing into a worm-gear on the end of a long crank-rod running back to the rear of the engine so as to be operated by the engineer, who by simply turning the crank the chains are wound and unwound, thereby drawing up and letting down the rear end of the lever, thus raising and lowering the front end of the boiler; thereby preventing all danger of burning flues or crown sheet, flooding of the cylinder, etc., etc., all of which are unavoidable to traction engines without the above described improvement, and also of great advantage in setting down the engine quickly and with ease, as the boiler can be leveled by merely turning the crank. It is claimed that the above attachment will keep any boiler level on any ordinary road, as it procures from fourteen to eighteen inches rise and fall.

Further particulars and all questions relating to the leveler will be cheerfully answered by addressing the inventors, Wilson Brothers, Gorham, Ontario, Co., N. Y.

**Mustard's New Traction Engine.**

ON the twelfth of September, 1882, James E. Mustard, of Glen Hall, Ind., was granted letters patent on his new and useful improvements in traction engines. The principal object of his invention is to produce a means for driving road-engines, in which the usual cranks and consequent dead-centers are avoided, while all the power is continuously utilized. This object is accomplished by mounting upon the hubs or shaft of the driving-wheels rack-wheels or segments which drive said wheels when moved forward, but which turn loosely when moving backward; by attaching rack-bars to

the piston-rods of the engines, which engage with and drive these wheels or segments, and by connecting said rack-bars by means of jointed rods, so that the force from both steam-cylinders operates upon each of said segments alternately as the segments move forward and back. A second object of the invention is to produce for such engines driving-wheels which have more than the usual resistance against slipping. This object is accomplished by attaching to the faces of the rims of said wheels, flat springs which so project as to give a greater bearing-surface on the ground than the common construction.

Professor Powers, Chicago, Ill., says Mr. Mustard's invention gives all of eighty per cent of power over the crank engine. The inventor has tested the springs for traction, and has found that they have a traction of ten times the weight they carry. Therefore in the new engine there is no dependence on weight for traction. The great advantage claimed for the invention is that the engine can be built so

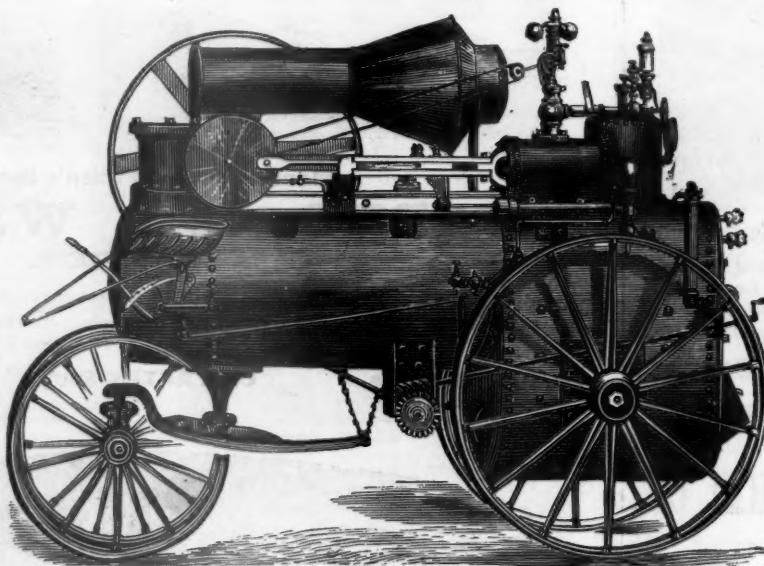
men. Another important advantage claimed for this brake is, that it is positive and uniform in its action, because it adjusts itself to all the various positions which the axle truck and car body assume in relation to each other when the car is in motion. A necessary consequence of this adjustment is the certainty that a given amount of pressure on the draw-bar must invariably produce the corresponding amount of braking power. The parts of the brake are manufactured of such strength as to last as long as the car itself, and provision is made to prevent unnecessary strain when the draw-bar is subjected to sudden and extreme compression. Messrs. WIDDIFIELD & BUTTON are prepared to place their brake in service, and invite correspondence on the subject.

A MISSIONARY steamer, whose hull and machinery weigh only six tons, is now moored in the Thames in London. The vessel is named Peace, and has been built for the Baptist Missionary Society, who destine it for the service of the mission in the upper reaches of the Congo River. The boat can be taken to pieces readily for transport purposes, and the total number of pieces, none of which would be too heavy for a man to carry, would be 800. The greatest possible use has been made of all available space, and the two cabins are admirably fitted. A kitchen adapted for a stove and other cooking appliances forms a part of the equipment. A substantial awning covers the deck and between this and the sides of the vessel a wire awning is fitted to stop arrows and other missiles. It is intended to take the steamer to pieces, and pack the sections in boxes, which will be sent to the mouth of the Congo. Thence they will be borne by 800 men a distance

of 300 miles up to Stanley Pool, where the steamer will be reconstructed by missionaries.

ONE of the foreign journals presents a singular statement in regard to diminished altitudes—the Andes, it appears, showing a sensible decline. According to this statement, Quito was found by La Condamine, in 1745, to be 9,596 feet above the sea; Humboldt, in 1803, could only make 9,570 feet of it, or twenty-six less; Boussingault, in 1831, was surprised to find the measurement show only 9,567 feet; Orton, in 1807, found it reduced to 9,520 feet; and Reuss and Stobel ascertained, as late as 1870, that it had actually shrunk to 9,356 feet. Quito, it seems, had sunk 246 feet in 125 years, and Pichincha 218 feet in the same period. The remarkable fact appears, from definite determinations, that its crater has sunk not less than 425 feet during the last twenty-six years, and Antisana 165 feet in sixty-four years.

A BRANCH line of the Dominion Government Telegraph will be run to Prince Albert this fall.



WILSON'S ATTACHMENT FOR LEVELING ENGINE BOILERS.

light that it can pass over plowed ground, and be made of great service to farmers of moderate means because of its cheapness. Steam plowing has never been a success in the United States, by reason of difficulties which Mr. Mustard claims to have overcome. He believes that by the use of his Traction Engine the farmer can plow by steam-power fifty per cent cheaper than by horse-power.

**Automatic Freight Brake.**

THE claim is made for WIDDIFIELD & BUTTON'S AUTOMATIC FREIGHT BRAKE, that it is the only automatic brake which has proved effective and trustworthy in actual freight service. However this may be, an account of its peculiarities affords interesting reading to persons understanding the subject. It may be stated, in passing, that the offices and works of the manufacturers are at Uxbridge, Ontario.

The Automatic Freight Brake is perfectly automatic. Each car is entirely independent and under the control of the engine-driver. Consequently no attention is required from train-

# AMERICAN Railroad Journal.

ESTABLISHED 1851.

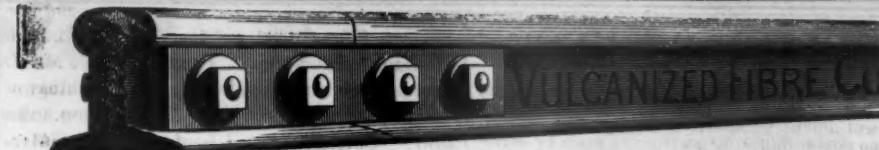
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We are amply justified in reducing the price from its old time rate of \$5.00 per year to \$3.00, on account of the numerous indications we are receiving of late of the increased interest that is being taken in the JOURNAL, which warrants us in believing that the sacrifice we make in price will be much more than compensated for by the promised liberal increase in the number of subscribers. It is gratifying to us to know that the alterations made in the JOURNAL during the past year are meeting with such general favor as is expressed in the frequent words of commendation and congratulation sent to us from old and new readers, and we feel called upon to try in every way to merit their approval and to spare no pains to place the paper before as many as possible of those who might derive benefit and profit from it. During its fifty years' experience the JOURNAL has been highly favored by an especially choice class of readers, counting among its subscribers some of the most noted banking houses, commercial bodies, financiers, and railroad men of this country and Europe. Its aim in the future will be to prove itself of more value and interest than ever to its patrons of many years standing, while by its new features it makes itself of service and interest to a broader field and to more varied departments of life and business. We desire to make the JOURNAL as useful and welcome as possible to our readers and advertising patrons, and to this end we hope to have our columns of correspondence, communications and general information full and diversified. The columns we have devoted to general communications have proved especially interesting and popular of late, and we are pleased to have our readers favor this department with suitable contributions.

We give on editorial page our new subscription rates, which are so changed in the belief that it will not only prove acceptable to many who desire to become regular readers of the paper, but that it will meet with the hearty approval of our advertising patrons, who are rapidly filling up the pages offered to them since the improvements in the JOURNAL have been started.

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which form non-metallic, permanently elastic compensating cushions, absorbing shocks and vibrations, and absolutely locking the nuts. These Washers have been adopted by a large number of railroads as the cheapest and best device in use. Flexible vulcanized-fibre dust guards and oil box packings, which are absolutely unaffected by oil and grease, are far more durable than leather and much cheaper.

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We pay no attention to communications unless the name and address of the writer are given, though the same will not be published if so requested. We assume no responsibility for statements made by correspondents, and we do not necessarily endorse ideas advanced by them. Under these conditions we think it of value to our readers to devote a liberal space to the free discussion by others—whose opinions may bear variance with our own—of subjects pertinent to our department of journalism.

**Wilmington, Wrightsville and Onslow Coast Railroad Company.**

EDITOR AMERICAN RAILROAD JOURNAL:

I noticed in the November number of your JOURNAL, an article on page 859 concerning our railroad, in which it is stated that it is to be owned and operated exclusively by colored men. This statement, although I presume it was not so intended, is calculated to do us harm by preventing our white friends from taking stock in and aiding the enterprise. The "right of way" has been given by the whites and some stock taken by them, and it is by no means intended that the road shall be under the exclusive control and management of colored men, but of the stockholders. It is however intended to give to young colored men an opportunity to become skilled mechanics and engineers at the shops which will be built for the road. Since this statement has been made in the JOURNAL, I will be glad if you will make the proper explanation.

I enclose a circular and some newspaper articles which will give you a little information concerning our road; and will add that it is intended to eventually extend the road along the coast to connect with Norfolk on the north and Charleston on the south.

I am, sir, truly yours,  
E. F. MARTIN, General Manager.  
WILMINGTON, N. C., Nov. 11, 1882.

### The Alleged Dressed Beef Syndicate.

The alleged intention of the syndicate headed by Mr. Vanderbilt to enter the dressed beef business and undersell all competitors in this line, has occasioned considerable comment. A reporter interviewed several members of the trade on the subject, and found a diversity of opinion among them. All, however, agreed in admitting that if Mr. Vanderbilt and his syndicate really meant business, and the people took kindly to the meat thus furnished, the occupation of the local cattle slaughterer would become a thing of the past. There were some, however, who did not believe that the syndicate intended to remain in the dressed beef business for any longer time than would be necessary to crowd out and annihilate the firms who had first started in this field. Those who hold this view argue that Mr. Vanderbilt would prefer the profit arising from the transportation of live cattle as freight before all the revenue that could be derived from the buying and selling of the beef itself in the Eastern markets. Of course this whole question hinges largely upon the consumers of meat. If the Chicago dressed beef is inferior in quality, as most of the wholesale butchers here say it is, the slaughterers of New York and those who supply the other great centers of population in the

Eastern States need not fear any material decline in their business. On this point, Mr. J. Strauss, the wholesale butcher, of Washington Market, is very decided in his opinion. He said: "Chicago dressed beef will never interfere with the home article in New York City or any of the large towns in the East. Chicago beef looks badly, and, worse than that, is as bad as it looks. It turns dark when exposed to the air, and has a slimy, repulsive appearance. It will sell only to the class who want cheap meat."

Moses Strauss & Co. said that they attached no importance to the competition of the Chicago beef with the meat slaughtered here. So far, they had not been affected in the least by the influx of the Western dressed beef.

Toffey & Co., of West Washington Market, make a specialty of the Chicago beef, and report that the retail butchers, their customers, are perfectly satisfied with the quality of the meat.

The reader will observe that this very important question of the quality of the beef is something upon which there is a wide difference of opinion.

The wholesale butchers generally maintain that the meat is positively bad. On the other hand, many retailers and those wholesalers who have begun to deal in the Chicago beef, say that it is not merely equal to but really superior to the meat slaughtered in this city and the neighborhood. They admit that it sometimes (though not always) has an uninviting appearance, but account for this by the warm weather which prevails at present. With the approach of a colder temperature the meat will cease to "sweat" when taken from the ice-box, and will therefore no longer present the slim appearance which some find objectionable. Another point which, in their opinion, is of great importance, is the superior tenderness of the Western meat. It stands to reason that meat four days or a week old will be tenderer than that which comes from cattle that are killed in Jersey City one day and eaten the next.

Swift & Co., the pioneers in the importation of the Chicago beef, do not seem to be at all

alarmed by the prospect of competition from the Vanderbilt syndicate.

The matter of freight rates will have the most to do with the settling of this question. If freight rates should rise, of course the local slaughterers will hold their own. As regards this point, Swift & Co. say they have arranged matters satisfactorily with the Erie, the Baltimore and Ohio and the Grand Trunk roads. Mr. J. B. Hoffman, of the Erie Road, says that immense quantities of dressed beef are now coming over their rails, that there is a constant increase in the shipments, that rates are low and he does not anticipate any advance in the immediate future.

It is due to the Vanderbilt syndicate to say that all the gentlemen connected with it who have been interviewed disclaim any intention of unfriendly competition with those at present engaged in the importation of Chicago beef. They claim to have entered the field in a legitimate business way, believing that the day of home-dressed beef is over, and that the new field now opening is large enough for all.—*N. Y. Bulletin, Nov. 14.*

A FAT man from New York recently engaged a lower berth in a sleeping-car, and, after he had retired, he raised the curtain of his window and glistened in the pale moonlight and the fresh, pure air that came in at the partially opened casement. He was a great stickler for ventilation, and the thought that he was getting a glorious draught of heaven's pure air made him happy. Finally, bathed in the magnificent moonlight, he sank to sleep. In the morning he woke to find that the window was double, and that only one of them was open. Aside from the man who got up in the dark and kicked four panes of glass out of a bookcase in order to get more air, and went to bed happy, we do not know of a sadder case of misplaced confidence.

E. P. ALLIS & Co., of Milwaukee, Wis., are building a new wood-working shop 215x65 feet and two stories high. This is in addition to these already extensive works, which cover over 15 acres.

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At the last "Mechanics' Fair" it received the Silver Medal, being the highest award to heaters of any kind.

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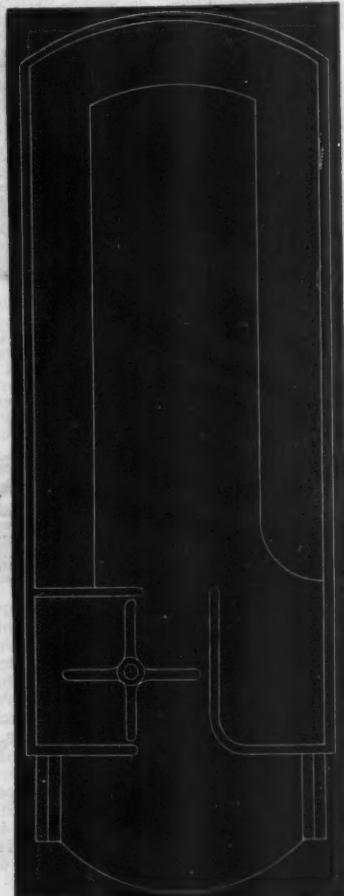
Address, Munn & Co., publishers of Scientific American, 261 Broadway, New York. Handbook about patents mailed free.

### Improvement in Street Cars.

In many large towns and small cities, where street railroads with their small—or “bobtail”—cars are useful, the company running the cars may be defrauded out of much of their legitimate income by the loose way of collecting fares, which imposes on the driver the entire control of the car and all the exactions of its passengers. People may get into the car, ride a mile or more, get out, and walk away, without paying their fare; and the driver be blamed at the end of the route for his meagre returns, and the company be swindled out of the fares.

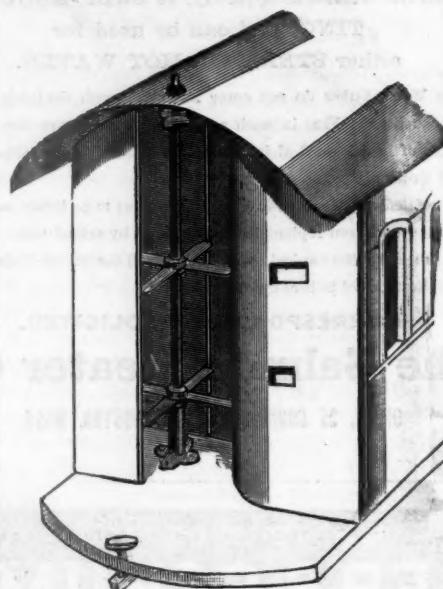
It is really impossible for the driver of a car who must be, at the same time, the conductor, or fare-collector, to control all the incomings and outgoings from the car, when some may drop off from the front and others slide off from the rear. The driver has his horses to manage, his switches to attend, his lamps to clean, and many attentions to bestow on his horses, his car, and his passengers. He cannot, under these circumstances, be depended upon to act as fare-collector and driver.

The accompanying illustrations attempt to show how it is possible to run a “bob-tail” car economically; or at least, how such a car may be made to return its proper earnings to the company.



The diagram, or plain view, shows the floor of a car as proposed. It will be noticed that the rear end of the car is inclosed, and that the side seats are extended around the rear end of the car. These rear seats would be very attractive to strangers, who would enjoy the view through the front.

The other view of the front of a car is introduced to show how the driver may control the entrance and exit of every passenger. The front of the car contains a turn-stile, that permits entrance to the car only on payment of the fare. This may be deposited in the slits provided for it, or may be given to the driver, who controls the entire management by a simple pressure of his foot on a pad in front of the platform.



In actual use the rotating stile is held locked by a ratchet and pawl, the pawl held by a spring lever under the car floor; a four-sided cam shown on the floor of the car and a similar one near the ceiling or roof of the car, retaining the stile in exact position. When passengers are to be admitted to the car, or are to come out from it, a slight pressure by the foot of the driver on the pad in front of him releases the engaging pin and allows the stile to rotate.

It is easy and inexpensive to attach to the turn-stile a register for recording every passenger that enters the car, insuring exactness in collecting fares, and furnishing a basis for statistics for collectors of facts of passenger transportation.

The stile is double, as is seen in the engraving, the lower one being designed for children and the upper one for grown people. The lower one is mounted on a hollow shaft and the upper one on a solid shaft, but both may be worked in unison, or either separately.

It will be seen that with this simple device the driver of a car may also be its fare-collector with scarcely any additional labor, and insure the company from swindling and his own honor from imputation. The patentee is Sylvester Bissell, who may be addressed at Hartford, Conn., relative to rights to manufacture, or contracts for application and use.

Any fancied objection to entrance and exit by the front of the car on account of personal danger is counteracted by the fact that a simple wheel-guard is supposed to be used in connection with this device, as should be the case in all street cars.

ADVERTISING in the RAILROAD JOURNAL.

### Improved Window and Lookout-tube for Locomotives.

LOCOMOTIVE-ENGINE drivers in the Northern States and in Canada, who understand the serious difficulty and danger which attend the running of trains in winter, from the accumulation of frost and snow on the cab-windows, making it impossible at times to see through them at all, will appreciate Taylor's Improved Window for locomotive and steamboat cabs, light-houses, etc., and Taylor's Lookout-tube for locomotives. The object of these two inventions is to enable the engine-driver to have at all times a clear view of the railway-track ahead of the locomotive.

The window consists of a frame of wood, metal, or any other suitable material, fitted with two sashes or frames of glass, mica, or any other suitable transparent material, with a heating coil of pipe between the said transparent sheets, having suitable connections with the boiler of the locomotive.

The steam from the boiler circulating through the heating coil of pipe heats the air space between the two sheets of glass or mica, and any snow, sleet or frost on the same is melted off, leaving the window always clear, so that obstructions on the track, danger-signals, etc. can be seen at all times without the necessity of opening the window to look out, which has been necessary heretofore when the window has been frosted up. Taylor's Improved Window is very simple in construction, and is fitted into the cab of the locomotive by removing a pane of glass from one of the windows. No alteration of the ordinary window opening is necessary to its use.

The Lookout-tube consists of a tapering tube of sheet metal or any other suitable material, secured to the locomotive so that the small end enters one of the cab-windows and the large end extends to the front of the locomotive. The large end is fitted with one of the Improved Windows described in preceding paragraphs; and being in advance of all smoke and steam, or snow thrown up from the front of the locomotive by the track-clearer, etc., and always kept free from frost, the engine-driver, on looking through the tube, can have a clear view of the track ahead of the engine at all times.

These inventions, the simplicity and practical importance of which commend them to the attention of railroad companies, have been patented recently in both the United States and Canada, by John M. Taylor, Fredericton, N. B., Canada.

A NEW style of through tickets is being adopted by the Pennsylvania Railroad Company, which, it is expected, will operate as a check to the business of the ticket scalpers. It is the intention of the company to gradually supersede the present style of tickets with the new ones. They differ from the present ticket in the detachable portions, and instead of being stamped with the customary seal will have the name of the purchaser signed upon the back, and the date of the sale will be punched directly over the signature. This will prevent the scalpers from erasing the name and stamp on the ticket, which is done very extensively with the present style of tickets.

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## Bemis's Dumping-Car.

THE dumping-car invented by JOHN E. BEMIS, of Waupun, Wis., upon which letters patent were granted on the 31st of October last, is a flat dumping-car adapted for use in the construction and repair of railroads, as it dumps on both sides at the same time; also in building piers, docks, etc., where large quantities of dirt and stone are handled. It is dumped by the engine. Any number of cars, from one to a whole train, can be dumped at the same time without uncoupling. When the train is to be unloaded the brakemen first arrange each car for this purpose, by an operation similar to that employed in braking, and very quick and easy of performance. Their work ends here; the engine does the rest. By a slow movement of the train from ten to fifteen feet, all the cars are dumped; and by a reverse motion to the starting-point, the platforms move back to their positions, and the cars are ready to be loaded again. Thus, by the use of the Bemis Dumping-car, no additional expense is incurred, the whole work of dumping and preparing for reloading being accomplished by the brakemen and the engine, and both these are necessary to every train, even if it consists of nothing but empty cars. When the cars are not needed for dumping, they are immediately adaptable for any kind of freight carried on flat cars, being of the same shape and size as the ordinary flat car.

## Rudd's Coupler.

THE drawhead of the coupler invented by Mr. F. H. RUDD, of Hebron, Thayer county, Mich., looks like those in common use. The coupling-pin is pivoted to a latch, which is rounding on its edge next to approaching cars. Said latch is held in its proper position by an arm of suitable shape, which works in the side of the drawhead. The approaching car carries a crooked arm below and at one side of the drawhead, which arm supports a suitable rest on which the link is carried. The crooked arm engages or strikes a bar on the opposite car and rises up over it, causing the link to rise also. The link strikes the rounding edge of the latch, which on rising also raises the coupling-pin till the link passes far enough, when it drops, making the coupling secure without the help of any one. Uncoupling may be done while under full headway or standing, by means of a cranked rod running across the end of the car, having a crank on each end of it, also one that reaches to the top of the car. This rod can be worked in either place in less time than it takes to open a common jack-knife. If desired, the pin may be raised and left in a locked position, so that cars will not couple.

A PASSENGER in a Boston street car pulled the vest button of the conductor and was surprised to hear a bell ring. Bell punches are used on that line, and the old plan of carrying a small gong in the palm of the hand to strike when pretending to punch a slip has become dangerous. So the plan of concealing the gong in the vest and connecting it with a button was invented.

## Commerce of New York.

THE foreign imports at New York for the month of October were:

	1880.	1881.	1882.
Ent. for cons.	\$15,544,936	\$19,940,594	\$21,025,712
Do. for warehousing	6,920,298	5,596,230	6,960,724
Free goods.	11,500,587	11,558,115	11,478,865
Specie and bullion.	16,248,590	6,969,304	1,422,945

Total ent. at port... \$50,214,351 \$44,064,243 \$40,888,246  
Withdrawn from warehouse..... 9,036,000 9,831,590 9,810,839

The foreign imports at New York for ten months from January 1, were:

	1880.	1881.	1882.
Ent. for cons.	\$197,844,038	\$189,447,447	\$221,953,476
Do. warehouse.	100,213,193	72,426,935	86,576,887
Free goods.	104,418,305	103,720,307	109,242,028
Specie and bullion.	49,758,972	52,915,893	4,524,083

Total ent. at port... \$452,234,571 \$418,508,582 \$422,296,473  
Withdrawn from warehouse..... 77,464,532 84,691,291 82,862,910

Received for Customs at the Port of New York:

	1880.	1881.	1882.
In Jan.	\$11,960,677	\$8,572,550	\$13,387,515
In Feb.	12,254,002	24	11,217,760
In March.	14,469,557	65	13,122,604
In April.	11,901,071	43	11,678,760
In May.	9,752,873	54	11,055,935
In June.	10,609,840	50	10,993,452
In July.	13,300,394	37	12,079,573
In August.	14,492,367	87	15,205,469
In Sept.	12,856,636	10	14,104,647
In Oct.	10,574,333	53	13,011,426

Total 10 mos. \$122,322,249 \$123,041,556 \$134,288,889

The exports from New York to foreign ports for the month of October, were:

	1880.	1881.	1882.
Dom. produce.	\$37,129,593	\$27,118,543	\$27,545,169
For. free goods.	366,514	214,238	137,306
Do. dutiable.	649,803	525,547	495,345
Specie and bullion.	1,195,043	1,171,262	535,393

Total exports.... \$39,340,951 \$29,026,590 \$28,713,216

Do. exclusive of specie..... 38,145,908 27,855,328 28,177,820

The exports from New York to foreign ports for ten months from January 1, were:

	1880.	1881.	1882.
Dom. produce.	\$339,717,413	\$302,846,048	\$272,178,114
For. free goods.	2,313,541	6,556,743	4,299,796
Do. dutiable.	4,205,006	4,940,221	5,046,433
Specie and bullion.	7,019,819	10,512,742	45,746,916

Total exports.... \$353,255,869 \$324,855,753 \$327,271,259

Do. exclusive of specie..... 346,236,050 314,343,011 281,524,343

## Production of Coal in the United Kingdom.

IN the United Kingdom the production of coal for the year 1871 was 117,352,028 tons, and for 1881 the total output was 154,148,300 an increase of 36,832,272 tons. The following is a comparison of the production of coal in the respective coal-yielding districts in the two years 1871 and 1881, drawn from the official statements of the mining inspectors:

	1871.	1881.
Durham and Northumberland.	29,190,116	35,592,420
Cumberland.	1,428,661	1,769,213
Yorkshire.	12,801,260	18,287,141
Derbyshire.	5,360,000	8,508,923
Nottinghamshire.	2,469,400	4,758,000
Warwickshire.	723,000	1,133,419
Leicester.	699,900	1,145,265
Stafford and Worcester.	14,281,250	14,585,070
Lancashire.	13,851,000	18,499,810
Cheshire.	975,000	782,000
Shropshire.	1,350,000	892,500
Gloucester.	1,412,297	1,361,396
Somerset.	673,878	731,754
Monmouth.	4,915,525	5,412,840
South Wales.	9,120,009	16,028,123
North Wales.	2,500,000	4,300,666
Scotland.	15,428,291	20,822,054
Ireland.	165,750	127,585

The table above shows that to this enormous output the great northern coal field contribu-

ted a quarter ten years ago, and, though it has added more than six million tons to its output, it yields now less than a quarter. Yorkshire, on the other hand, produces more than its proportion in the last decade, but the vast coal field of South Wales has made a still more marked stride, adding the largest proportion of all the large coal-producing districts. Scotland extends its production by five million tons; the small yield of Ireland slightly sinks in the decade, as also does that of Gloucester; but Warwickshire, Nottinghamshire, Derbyshire and Lancashire have large increases, and it is apparent that it is only scattered districts that yield less, while throughout the great bulk of the coal field the production has gone on enormously rising, if in varying proportions. It is worthy of notice that in the decade the number of miners has been increased in even a greater ratio than that of coal. There were 370,881 persons employed in and about the mines in 1871 and 495,477 last year, the maximum number being reached in 1874, when 538,829 were so employed. Thus the average production of the miners was lowered during the first three or four years, during which prices and wages rose, and since that time there has been an increase of the average production. It is still, however, lower than it was ten years ago. In 1871 every person employed in and about the mines produced on an average 316 tons of coal, but last year every person produced only 311 tons on the average. This is one of the counter-balances to low wages—when wages are low there is a fuller work on the part of the miner, and when wages are on a higher rate the average amount produced in a given period is less. An analysis of the returns for the various districts would show that there is a very considerable variation even in districts near together—the Yorkshire mines producing exactly the average, while the South Durham men bring out 80 tons each more in the year.

## The American Signal System.

THE automatic signal system adopted by the Pennsylvania Railroad Company on their Tyrone Division, where 180 coal trains pass every day, comprises a wire stretched on poles between danger signals, which at the entrance of trains upon the sections mark red, danger, and passing from the sections do the same, while every switch connection instantly drops danger at the switch and at both ends. The current is created by the engine's heavy weight driving a pin into a socket and letting the battery act. The signals are boxes of white, inside of which play red curtains skilfully responding to the engine on the pegs. No accident is possible except by the failing of the battery or the falling of the wire, and the latter instantly signals danger. It is said that there is only one system of signals in use in this country, and that the English block system, —which costs a million or two a year between New York and Pittsburgh—whereas the American signal system described requires no men at all and only occasional inspection, the engine and the battery doing everything, and costing to put in full operation on a double track road \$500 per mile. The old block system has had three accidents per day on a single mile of road.

SMOKERS of cigars in the cafés in some parts of Germany make it a rule to cut off carefully the end of the cigar before proceeding to smoke it, and to deposit the piece so severed in a metal box or tray placed to hold it in the center of the room. The trays are placed in the cafés by a benevolent society which has numerous branches, and the aim it has in view is to supply a certain number of poor children with a new suit of clothes at Christmas each year. The statistics furnished by nineteen of the branches in the Rhenish Provinces show that in 1881 no less than 4,500 pounds of tobacco were collected in this way. This was sold for £1,200, a sum which sufficed to provide an outfit for over 1,700 poor children, at an expense of about fifteen shillings each. The branches of the Society are steadily increasing in number, and have doubled within the last three years.

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**IMPORTANT ANNOUNCEMENT TO INVENTORS.**

THAT department of the AMERICAN RAILROAD JOURNAL which contains descriptions of new inventions properly coming within its range of subjects, is regarded with great notice and favor, particularly by those directly interested in learning what the latest applications of mechanical ingenuity in railroading are, and by those who have produced inventions which they desire to make as widely known as possible.

The large and widespread circulation of this paper, its prestige as the oldest railroad journal in the world, and the weight attached to its contents by the general consent of leading railroad men in all countries, give such value to its carefully prepared descriptions of new machinery and appliances as cannot be found outside of its columns.

The interest manifested by inventors in supplying us with information of their doings, and the eagerness with which this is received, encourage us to give an increased attention to that department of this paper treating of new inventions.

We therefore repeat our invitation to all persons who have produced what they regard as improvements coming within the range of railroad operations, to communicate with us promptly regarding the same.

All matter sent us will be thoroughly examined and considered, and no inventions in our opinion likely to be practicable and useful will be passed over without receiving due attention from us.

**List of Recent Patents for Inventions Relating to Railway Interests.**

**BEARING DATE OF NOVEMBER 14, 1882.**

267,321. Car-Coupling : George I. Blackley and John I. Nicholson, Greenville, and Harvey A. Holloman, White Rock, assignors of one-fourth to Thomas C. Reedy and Anderson J. Beezley, Hunt County, Tex. Filed March 18, 1882.

267,330. Car-Platform : Rensselaer A. Cowell, Cleveland, Ohio, assignor to the Cowell Platform and Coupling Company, same place. Filed April 20, 1882.

267,335. Car-Truck : Spencer B. Driggs, New York, N. Y. Filed March 13, 1882.

267,337. Car-Axle Box : Joseph Eisele, Lafayette, Ind., assignor of two-thirds to Benjamin F. Masters and Charles E. Gove, both of same place. Filed June 30, 1882.

267,338. Feed Water Alarm for steam boilers : George W. Getchell, Brewer, Me., assignor of one-half to Manly Hardy, same place. Filed Sept. 16, 1882.

267,341. Car-Spring : George F. Godley, Philadelphia, Pa. Filed July 31, 1882.

267,344. Car-Coupling : David M. Harris, Newark, N. J. Filed March 6, 1882.

267,356. Fruit and Produce Railway Transportation Car : John F. Maxfield, Bloomfield, N. J. Filed Aug. 4, 1882.

267,369. Railway Signal : John W. Purslow, Durango, Colo. Filed May 15, 1882.

267,405. Traction Engine : Julius C. Debes, Mount Vernon, Ohio, assignor to C. & G. Cooper & Co., same place. Filed Oct. 10, 1882.

267,420. Railroad Spike : Howard Greer, Chicago, Ill., assignor of one-half to George H. Christy, Trustee, Sewickley, Pa. Filed March 3, 1882.

267,425. Car-Truck : Calvin Q. Hayes, Sedalia, Mo. Filed May 3, 1882.

267,429. Railway Rail-Joint : Daniel B. Hicks, Pittsburgh, Pa. Filed Aug. 25, 1882.

267,436. Apparatus for operating Railway Signals : David J. Lindsey, Las Animas, Colo. Filed Feb. 28, 1882.

267,437. Electric Station Indicator : John F. Loughlin, Hyde Park, Mass. Filed Nov. 16, 1881.

267,453. Car-Coupling Link : Albert W. Palmer, Orange, N. J. Filed Dec. 9, 1881.

267,463. Combined Steam Condenser and Tender : Herman S. Saroni, St. Paul, Minn. Filed Jan. 20, 1882.

267,464. Traction Engine : Herman S. Saroni, St. Paul, Minn. Filed Jan. 21, 1882.

267,486. Baggage-Check : Edward J. Brooks, East Orange, N. J., assignor to E. J. Brooks & Co., New York, N. Y. Filed June 10, 1882.

267,500. Railroad Gate : Jacob H. Danner, Gish's Mills, and Rufus P. Kyle, Fincastle, Va. Filed Aug. 18, 1882.

267,508. Car Wheel and Axle : Gibson W. Fairman, New York, N. Y., assignor, by direct and mesne assignments, to the Fairman Wheel and Axle Company, of New York. Filed Sept. 9, 1882.

267,522. Tool-Holder for Cars : William A. Harnden, Cambridge, and Joseph P. Doyle, Boston, Mass. Filed July 15, 1882.

267,530. Stock Car : Joel M. Holden, Boston, Mass. Filed July 10, 1882.

267,531. Car-Coupling : S. Lewis Holmes, Hillsborough, Ohio. Filed Sept. 7, 1882.

267,539. Sliding Car-Door Bolt : Walter Johnson, Jackson, Mich. Filed May 22, 1882.

267,543. Cleaning Ash-Pans of Locomotive Engines : Aliden D. Kilborn and William F. Smith, Tucson, Ariz. Filed Aug. 11, 1882.

267,554. Car-Coupling : James H. McLeary, San Antonio, Tex. Filed Oct. 7, 1882.

267,561. Automatic Block Signal Mechanism for Railways : James A. Millholland, Cumberland, Md. Filed June 5, 1882.

267,564. Frog : William J. Morden, Chicago, Ill. Filed Aug. 4, 1882.

267,565. Guard Rail for Switch Frogs : William J. Morden, Chicago, Ill. Filed May 4, 1882.

267,566. The Bar for Railroad Switches : William J. Morden, Chicago, Ill. Filed April 10, 1882.

267,567. Railway Frog : William J. Morden, Chicago, Ill. Filed May 22, 1882.

267,568. Railway Crossing : William J. Morden, Chicago, Ill. Filed May 15, 1882.

267,569. Safety Device for Switches : William J. Morden, Chicago, Ill. Filed March 13, 1882.

267,593. Car Unloader : George W. Rolph, Toledo, Ohio. Filed Sept. 20, 1882.

267,608. Car-Coupling : William L. Skelton, Jacksonville, Ala., assignor to himself, William A. Skelton, and James J. Skelton, all of same place. Filed Sept. 6, 1882.

267,613. Locomotive Head-Light : Frank H. Talbot, Rochester, N. Y., assignor to himself and Fernando Brown, Cleveland, Ohio. Filed Sept. 14, 1882.

267,621. Car-Coupling : James A. Walker, Galesburg, Ill., assignor of one-half to Clark E. Carr, same place. Filed July 31, 1882.

267,629. Manufacture of Draw Bars : John T. Wilson, Pittsburgh, Pa., assignor to Wilson, Walker & Co., (limited,) same place. Filed April 24, 1882.

267,632. Railroad Time Bulletin Board : John W. Wolcott, Clyde, Ohio. Filed Mar. 4, 1882.

267,645. Car-Coupling : James P. Davison, St. John, Ill. Filed Sept. 22, 1882.

**REISSUE.**

10,237. Interlocking Switch and Signal Apparatus : Matthias N. Forney, New York, N. Y. Filed March 17, 1882. Original No. 247,034, dated Sept. 13, 1881.

**Catching a Rabbit for His Girl.**

A YOUNG man who lives on the north side of Chicago and smokes cigarettes, heard his adored express a wish for a rabbit. Wandering at dusk past a residence surrounded by a spacious lawn, and pondering upon the possibilities of raising lucre enough to purchase a long-eared pet for the damsel, his attention was attracted by a white object on the lawn. Closer examination showed it to be a rabbit. In the shadow of some shrubs the little animal sat on its haunches, with ears erect. He chuckled to himself as he saw how he could save the money he was going to borrow to buy a rabbit with and yet get the rabbit. He climbed the fence, undismayed by the four-inch gash in his wall-paper trousers, and stole softly upon the unsuspecting rabbit. The rabbit never stirred. Taking off his elegant tile, that he had stood Dunlap off for that morning, he pounced upon the poor thing and jammed the hat down over it, and the two white ears stuck up through the new tile-top. It was an iron rabbit.

THE Georgia Car Company, of Cartersville, has recently declared a dividend of 25 per cent.

**The Work Railways Provide.**

THE railways are the workingmen's best friends, for the money of the railways is largely spent in paying wages. What an army of laborers is supported by the construction of new lines merely! It is stated that in the wild Territory of Idaho alone, eight thousand men are engaged preparing the pathway for the locomotive; in the fastnesses of the Rocky mountains three thousand are pushing the Denver and Rio Grande Railway westward; the solitudes of Arizona and the Californian desert are alive with the builders of the thirty-fifth parallel line; tens of thousands of men are strung along the route of the great Canadian Pacific Railway, from Ontario westward through the wilderness north of Lake Superior, on over the unbroken prairies of British Columbia and the mountainous regions of the Pacific coast; all through the western States and Territories unnumbered thousands are digging, and the money of the enterprising but not always appreciated capitalist supports them and their families. Every working day—taking the average for the year thus far—forty miles of main track are added to the railway mileage of the country, and every day 200 more men are required to operate them. If the total mileage constructed during 1882 shall be 10,500 miles, then 52,500 men will have been added to the army employed in operating the completed roads; while the work of new construction will still push forward, furnishing work and bread to multitudes. No class of men ought to be so anxious to have the railroads prosper as those whose living is obtained from railway employment.—Ex.

INVENTORS should find encouragement in the fact that if what they produce is of real practical value and can be made at a figure which will render the invention readily marketable because economical in price, the saving of time and labor or other advantages in its use being taken into account, as well as obviously an improvement, capitalists engaged in manufacture will jump at the opportunity of making for them on terms which cannot but prove advantageous to the originator of the improvement. This desirable state of matters is the result of the readings with which useful knowledge is circulated by means of advertisements and otherwise. On the other hand, it is not to be expected that men will be found ready to use their capital in putting on the market novel contrivances which do not answer either to remove imperfections in earlier devices, improve the manufacture of goods or economize labor, and which cannot be manufactured at a cost making their use generally expedient as an invention or as substituted for something else. The great inventions of the world have been evolved by laborious and persistent experiment, and generally by men engaged in the line of industry which they properly assist. Hard work is the lot of the inventor, but his fulfilment of the conditions laid down is certain, if he bargains with ordinary prudence, to give him both reputation and financial reward.

"VIRTUE is its own reward;" and so is villainy.